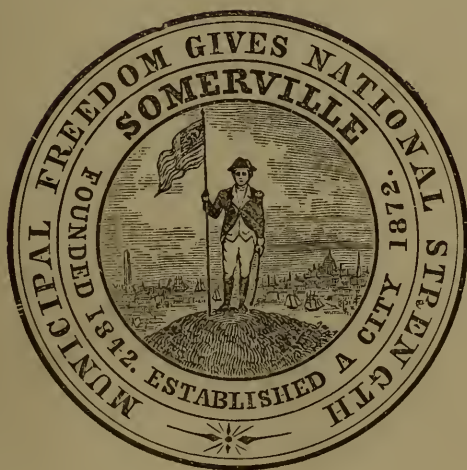


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CITY OF SOMERVILLE**

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CITY OF SOMERVILLE

ANNUAL REPORTS.



1878.

1879.

1880.

SOMERVILLE, MASS.:
SOMERVILLE JOURNAL PRINT.
1879.

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ADDRESS OF MAYOR BRUCE.

GENTLEMEN OF THE CITY COUNCIL : —

We have met here to-day in accordance with the provisions of our charter, for the purpose of taking upon ourselves the oath of office, and to organize the City Council for the present year. When we reflect upon the influence, both direct and indirect, that is exerted by all governments, whether great or small, on the material, the intellectual, and the moral well-being of a people, we shall each of us be led to conclude that we are about to enter upon duties that cannot be looked upon lightly, and that a proper discharge of them will require the constant exercise of a sound and enlightened judgment, wise foresight, and a firm resolution to follow continuously a course of conduct that shall result to each of us from the use of our own judgments, uninfluenced by personal considerations of any kind or nature.

The best return we can make to our fellow-citizens for the confidence they have seen fit to place in us, is a year of faithful service and unselfish labor in behalf of the interests that have been confided to us.

In some respects, at least, we begin the new year under circumstances that will give to us encouragement and materially lighten our labors. It is due from me to my predecessor to say, that he and those who have labored with him have succeeded in placing the government in our hands as free from unfinished work and embarrassments of every kind as it was possible to do by the most faithful and conscientious discharge of duty.

It is not my intention, as it does not seem to me in any way needful, to enter into a detailed statement in regard to the condition of the various departments of the government, but only after presenting a few subjects, some of which will necessarily engage our attention, to submit some suggestions of a general nature that may possibly be of service in guiding and directing our steps during the year.

FINANCES.

From the books of the city treasurer, it appears that the funded debt of the city, on the first day of January, amounted to \$1,606,-854, the same as at the last annual report, and the sinking fund contributions for its payment in round numbers to \$94,000. There is also a floating debt, composed of temporary loans, amounting to \$270,000, and there is now due the city for taxes and sewer, sidewalk, highway betterment and Broadway Park betterment, assessments in round numbers, \$330,000, showing a balance due the city of about \$60,000 in excess of its unfunded liabilities. From this it appears that the total indebtedness of the city on the first day of January, 1878, less its sinking fund and available assets, is about \$1,410,000, or about five and one half per cent of its entire valuation as returned by the assessors in 1877.

There is one fact to be drawn from these figures to which I would especially call your attention, and that is, the large amount of our floating indebtedness, which is made necessary by the large sums still due and unpaid into the treasury. People are apt to look at the figures showing the total of our debts, and thus we gain the undesirable credit, that works greatly to the prejudice of the city, of being more heavily burdened than we really are. You will see upon examination of the treasurer's annual reports, that there are sewer, sidewalk, and highway assessments, drawing no interest, that remain uncollected for a long time after they have been laid; and being for special work, done generally at the request of those assessed, it is not right that the city should be a lender to such beyond a reasonable period of time. The same suggestion is also applicable to our taxes. Here, it is true, the city gains by collecting a larger rate of interest than it is obliged to pay for its temporary loans; but I think this is of but small account as compared with the advantages gained by having its loan account as small as possible, and the sums due it collected as closely as may be done without inflicting any hardship on our citizens. These heavy arrearages, to my mind, injure the credit and good name of the city; and I think all will cheerfully submit to a little more strictness on the part of the government towards those who have fallen into the habit of postponing payment of their taxes and assessments to the last moment. As the matter now stands, the whole responsibility is placed upon the city treasurer, and for the purpose of relieving him of it and freeing him from endless trouble, I would suggest the

passing of an ordinance, making it obligatory upon him to enforce payment of all taxes during the year next succeeding the date of their levy, and all sewer, sidewalk, and highway betterments assessments within one year from the time the same are laid. This certainly cannot be looked upon as in any way oppressive, and if adopted, will result in lessening the indebtedness of the city to a considerable extent, and leaving its accounts, at the end of each financial year, in a much more satisfactory condition.

As a part of our financial standing, it ought to be stated that there are now pending, in the various courts of the county, seventy-five actions to which the city is a party. Twenty-three have been disposed of during the past year. Most of these suits are in relation to taxes and the construction of various streets and the Broadway Park; and it is not believed that the city will be the loser to any great extent from this source. I shall take pleasure in doing what I can to aid the solicitor in bringing all of these cases to a speedy trial or settlement.

BOARD OF HEALTH.

The State Legislature in 1877 passed an Act entitled "An Act relating to Boards of Health in the several Cities of the Commonwealth," which has been accepted by the vote of our citizens; and it will be necessary for us to comply with some of its provisions during the present month. The vote upon this Act took place on the day of the State election, and there were cast two hundred and seventy-eight votes in favor, and one hundred and sixty-seven votes against it. I think it safe to say that there were not twenty people in the city, outside the members of the past city government, who had any knowledge on the morning of the day of election that such a measure was to be submitted to a vote of the people. I cannot but feel that we have made a mistake. That a city, which, under previous laws, through the unpaid services of the Board of Aldermen, has been able to abate the greatest nuisances that ever existed in any municipality in the Commonwealth, should now require a paid commission, with the great powers possessed by it to incur expenditures, to perform the very small amount of work necessary to be done from year to year, is quite beyond my own comprehension. I trust that the compensation voted to the members of it will be fixed at a nominal sum, and that we shall be able to find men of experience and ability who will

accept the positions on the commission from a sense of public duty, without regard to compensation.

SIDEWALKS.

One of the great attractions of any city is a succession of good streets ; and the most important part of a street, to a population like our own, is that part of it used by foot-passengers. As a rule, our roadbeds are worn out by the travel of non-residents, while all of our citizens are constantly using the walks ; and it has often occurred to me whether we do not spend a little too much money on the former and too little on the latter. With a clay soil, it is almost impossible to make a satisfactory walk except by the use of edgestones and brick ; and I think it would be wise economy for us to expend four or five thousand dollars annually in constructing brick sidewalks. It is not going to be the part of wisdom for us to say that our city shall absolutely refuse to do any work in the way of improvement, but we must confine it within the narrowest limits, to the most needed improvements, and such as will result in the largest return for expenditures. If this recommendation should meet with your approval. I would further urge that, in laying out this work, good judgment requires that it should be confined entirely to streets where the travel is greatest.

RAILROAD BRIDGES.

Something was done during the past year for the purpose of inducing the railroad corporations whose tracks run through our city, to replace the unsightly bridges, that by law they are under obligation to construct and maintain, with others that will be suited to the present width of our streets and the amount and character of the travel passing over them. Some of these, I am satisfied, are unsafe and dangerous to travel, and in appearance are in marked contrast with the structures built by the liberality and good policy of other corporations of the same character that run to the south and west of the city of Boston. I think it is due from these corporations to our own, and to themselves as well, that this cause of complaint should be speedily removed. And I would suggest that this subject be very early referred to one of the standing committees, or to a special one, to effect the object desired, if possible, by conference and negotiation ; and if we fail in this way, by appeal to the commissioners, who, after a personal examination, can hardly refuse a compliance with our reasonable requests.

PUBLIC GROUNDS ON CENTRAL HILL.

I would suggest the inquiry whether the interests of the city do not require that a beginning should be made in grading and laying out of the lands about the City Hall and High School building. Lest it may be thought that, from the nearness of my own residence, some personal interest may enter into this suggestion, I will state that I do not propose in any way to urge the measure, but simply to state the reasons that would justify action on the part of the government.

This land was purchased quite a number of years ago, before the adoption of our city charter, and from the number and character of the public buildings placed upon it, the unoccupied portion would be of little value for purposes of sale. It is not probable that any one would think it advisable for the city to dispose of any part of this property. It has been valued for several years at \$175,000. I suppose the grounds on which public parks and squares are commended to public favor and support are, that they bring back to a city or town an annual return equal to the interest on the money invested in them by the opportunities they afford as resorts for recreation, pleasure, and health, as standing examples of neatness and taste, and more directly by attracting people to build and make their homes around and about them. If this theory is correct, then we have been practically losing large benefits for neglecting to spend a very small sum of money. I would recommend the adoption of the simplest plan for laying out of the land, and feel certain that the whole can be accomplished for the sum of \$8,000. It is desirable, however, that a beginning only should be made at the present time, and that the expenditures for any one year should not exceed \$2,000. If such a course should be followed, and followed strictly, it would, in my opinion, receive the general approval of the people and result in a permanent ornament to the city in which all would feel a common pride.

With the exceptions that I have mentioned, it seems as if we should be called upon to do but little except carry forward the necessary work required by the various departments of the government which are now placed in our hands to administer.

For one about to enter upon the important duties now placed upon each one of us, the first thing to consider is the wants and needs of the city, — not what may be the wants of a few individuals, but what the city itself wants and needs, from its present

position, financially considered, and from the present condition of all departments of the public service.

We now have a city completely organized in every particular, with an abundant supply of pure water ; a system of sewerage that will probably require but little change for many years, and so nearly complete as to call for only a moderate sum from year to year for its maintenance and gradual extension ; our streets, as a rule, well built and at present in a very creditable and satisfactory condition, with no probability of a demand for new ones at present ; our public buildings ample for present wants ; the police and fire departments certainly large enough and well organized and equipped ; our public schools represented by those familiar with them as ranking as high as the average of the best city schools in the State, — so that our duty will be, with possibly the few exceptions that have been referred to, not to organize and extend, but the rather to properly look after and wisely maintain what already exists.

But all of our fine public buildings, our long list of macadamized streets, our water-works, our system of sewerage, and other public improvements built within a short space of time, and at a period when prices of labor and materials were unnaturally high, have left us with a large debt, which we are now obliged to provide for and must pay finally in money of much greater value and much harder to earn than that received by us when the larger part of our bonds was sold. Nearly, if not quite, one third of all the money we shall be called upon to raise the present year will be required to meet the interest account and the requirements of law in regard to contributions to our sinking funds ; and if I am not mistaken, we shall be obliged, during the next ten years, to raise annually by taxation nearly \$150,000, provided our indebtedness remains as at present, for interest and the sinking funds alone.

I mention these facts for the purpose of informing our citizens generally just what part of all the taxes they will be called upon to pay will be required for other purposes than that of maintaining and carrying on the work of the city government ; it is certainly with no intention of finding fault with those who were instrumental in creating the debt. Indeed, who, under our theories of government, can properly be called the authors of it but the people themselves ? Having voluntarily placed this burden on our shoulders, it certainly is not becoming in us to grow impatient and fault-finding at any high rate of taxation, so far as it is made necessary

by the past action of the city. The members of this city government are to be held responsible only for those expenditures over which they themselves exercise a control.

It is perhaps worthy of notice that there is but little difference in the financial exhibits of all the cities and towns in the State, situated near enough to the great centres of trade to be directly affected by the wild fever and excitement that ruled and controlled the commerce and trade of the nation during the ten years preceding the year 1873. There are, of course, a few noticeable exceptions to this general statement. I think, considering the large amount of our permanent improvements already completed, and the small requirements for the future, there are few cities in the Commonwealth, if any, whose prospects give greater cause for encouragement than our own. If there has gone abroad into the public mind an impression that our city is more heavily burdened than others, that investments in real estate are, as a rule, less secure here than elsewhere, I desire, in as public a manner as possible, to say that there is no real ground for such an impression to rest on.

And still the most that can be said is that we are as well off as the average of the cities of the States. Before 1860 municipal debts of a magnitude sufficient to excite discussion or to become a cause for alarm were unknown in New England at least. Up to that date a moderate tax-rate had been sufficient to meet all current expenses, and effect such improvements as the wants of the people required, and under this policy a steady growth and prosperity went hand in hand; labor was in constant demand and met with a fixed and sure reward. The wide-spread distress among the laboring and other classes, now one of the most alarming features of the time, was unfelt, or, if felt at all, only temporarily, and meeting with a speedy relief. Without tracing the causes of this wide departure, we are all now conscious that we have been riding, as it were, in a financial storm, that has carried us too far from the course of true wisdom, and we are now reaping the rewards of our own imprudence. It is for us to repair these mistakes, manfully, boldly, and without repining. Certain it is, that sooner or later we must go back into the beaten path of economical expenditure, and the city or town that first returns to it will earliest experience a return of growth and prosperity. This is not the voice of one person, but the universal sentiment of all reflecting men at this time. Nor think that such a course is recommended for the rich

alone ; from it the poor and those in moderate circumstances will first find relief. The interests of all classes are alike, and there is no antagonism between them, so far as they are affected by the action of municipal governments.

Our citizens generally are prudent and careful in the management of their own affairs, and they expect and will demand prudence and care on the part of those to whom they have confided the management of the affairs of our city. They do not expect us to imitate or follow the example of other cities, only so far as will result to their own good. What would be wise and prudent for one person may be unwise and imprudent for another. The same rule is true as applied to municipal and town governments. There is no absolute standard by which our actions can be tried ; they are to be governed by the circumstances that actually surround us. Last year the appropriations for current expenses were less than the preceding, and I feel certain that they can be reduced still further without in the least injuring the efficiency of any arm of the public service ; and I ask of you, gentlemen, and the chiefs of the various departments, to co-operate with me to this end. There is apt to be a rivalry on the part of committees and departments to secure as large a sum as possible for each, and instead of such a course, I would invoke a friendly rivalry among all, to secure the largest reduction consistent with prudent management. It is for us, also, to secure the best agents possible to carry out our purposes, and if we find that any are not performing their duties well and aiming to promote the interests for which they are employed, we should not hesitate to demand and secure their instant removal.

Before the passing of the annual appropriations, there will be sufficient time for each committee to become familiar with the wants and needs of the department committed to its care, and it would be a very creditable and desirable result if this city government could close its work at the end of the year with none of its accounts overdrawn.

GENTLEMEN OF THE CITY COUNCIL :

I have now stated to you briefly all the suggestions and recommendations that have occurred to me as necessary and fitting to be presented at this time. The cares and duties which others have laid aside we are now to take up and carry forward during this present year. The people who sent us here will be watchful of our

course, and we each must be watchful of ourselves. The good name, present and future, of our city has been placed in our keeping. It is a charge that no one of us, either wilfully or by neglect, can well afford, in any particular, to either violate or loosely keep. We have been sent here to exercise our own judgments, formed, of course, after mature deliberation, on all questions that may come before us, and not to follow the dictation or leadership of any person or persons, whether in the city government or out of it.

I feel sure that if we commence a record — and continue it through the year — that shall be the expression of the deliberate judgment of the two branches of the city government, it will meet with the general approbation of our fellow-citizens.

TREASURER'S
SEVENTH ANNUAL REPORT
OF THE
FINANCIAL CONDITION
OF THE
CITY OF SOMERVILLE.
1878.

CITY OF SOMERVILLE.

IN BOARD OF MAYOR AND ALDERMEN, Feb. 3, 1879.

The Report of the City Treasurer and Collector of Taxes for the year 1878 was received, accepted, and referred to the Committee on Finance, and sent down for concurrence.

CHARLES E. GILMAN, *Clerk*.

IN COMMON COUNCIL, Feb. 4, 1879.

Concurred in.

DOUGLAS FRAZAR, *Clerk*.

IN COMMITTEE ON FINANCE, Feb. 20, 1879.

To the City Council of the City of Somerville:—

The Committee on Finance, to whom was referred the Treasurer's Report for the financial year ending Dec 31, 1878, have attended to their duty by giving the same a rigid and thoroughly faithful examination, by comparing the treasurer's books with vouchers on file and pay rolls from the various committees with warrants of the mayor. We report to have found the system of the transactions complete and correct in every respect, and are gratified to state that the strictest honesty and impartiality have been practised by the treasurer in the discharge of his arduous duties as guardian of the city's exchequer. For these reasons we recommend that the report be accepted.

IN BOARD OF MAYOR AND ALDERMEN, Feb 24, 1879.

Report accepted and adopted. Sent down for concurrence.

CHARLES E. GILMAN, *Clerk*.

IN COMMON COUNCIL, Feb. 24, 1879.

Concurred in.

DOUGLAS FRAZAR, *Clerk*.

CITY OF SOMERVILLE.

TREASURER'S OFFICE, Feb. 3, 1879.

To the Honorable, the Mayor, and the City Council of the City of Somerville :

GENTLEMEN, — The undersigned presents herewith his Seventh Annual Report as treasurer of this city.

The value of the public property, as appears by an inventory and Report of the Committee on Public Property, dated July 6, 1878, is \$1,121,400.

The funded debt, Dec. 31, 1877, was \$1,606,854. Sidewalk Loan Bond No. 6 for \$10,000, which became due on the first of October last, was provided for in the order for laying the annual tax, and was paid at maturity. Other bonds matured during the year, and were provided for by the issue of new bonds, leaving the funded debt, Dec. 31, 1878, \$1,596,854. The new bonds were made for sums, and to mature at periods, within the time prescribed by the law to regulate and limit municipal indebtedness, accommodating the several sinking funds, and were sold to the commissioners of the sinking funds.

The unfunded liabilities are, temporary loans (*i. e.*, city notes given for money necessarily borrowed to meet the current expenses, because of outstanding taxes, assessments, etc.), \$205,000, and the credit balances of the following named accounts, subject to withdrawal by the Committee or Board having charge, severally, of the departments : — Sewers (Beacon and Elm Street sewer), \$7,051.33 ; Somerville Water Works, \$523.62 ; and Public Library, \$478.06. Total, \$213,053.01. The credit to Public Park account, \$33,709.95, is contingent upon the receipt of the park betterment assessments, and when collected will, with the credit to Excess and Deficiency account, \$19,748.05, be subject to the order of the city council.

The assets available for the payment of the unfunded liabilities are : — Taxes, \$180,973.63 ; Real Estate liens (*i. e.*, real estate held by the city on tax titles, and subject to redemption upon payment of the city's claim), \$19,253.44 ; Sidewalk assessments, \$2,288.97 ; Sewer assessments \$4,547.27 ; Water Service assessments, \$577.06 ; Public Park Betterment assessments, \$39,016.79 ; Highway Bet-

terment assessments, \$16,039.83; State of Massachusetts for State aid, \$4,308.50; State of Massachusetts for support of soldiers and sailors, \$2,440; and Cash, \$6,748.78. Total, \$276,194.77. On taxes there will be some abatements, and the amount will be carried to the debit of Overlay and Abatement account of the present year. On Real Estate liens, and Sidewalk, Sewer, and Water Service assessments and the sums charged to the State, there should be no loss. The Public Park Betterment assessments are all in suit. With the exception of \$3,182.71, the Highway Betterment assessments are in suit (Highland Ave., \$7,660, Winthrop Ave., \$1,957.50, and Chauncy Ave., \$3,239.62).

From the foregoing, it appears that the financial condition of the city Dec. 31, 1878, aside from the public property, is:—

Funded debt,	\$1,596,854 00
Unfunded liabilities,	213,053 01
Gross debt,	\$1,809,907 01
Available assets,	276,194 77
Debt less available assets,	\$1,533,712 24
The amount of the sinking funds, taken from the Report of the Commissioners, is	144,963 84
Leaving as the net debt of the city, Dec. 31, 1878,	\$1,388,748 40

The tax levy for 1878 was on a valuation of \$20,976,900, at \$19.00 on a thousand, and 5,468 polls, at \$2.00 each, and was for

Appropriations for current expenses,	\$376,530 62
State of Mass., for State tax,	15,440 00
County of Middlesex, for county tax,	11,153 27
Overlay and Abatement account, to meet abatements,	6,373 21
Amounting to,	\$409,497 10

Several of the current expenses accounts show credit balances:— Interest (to the credit of which there was carried for interest on taxes, \$15,917.12), \$11,738.18; Incidentals,— being corporation and bank taxes received from the State,— \$6,275.20; Liquor Licenses, \$3,356 25; Highways (including a transfer from Excess and Deficiency account of the year 1877), \$1,530.93; Sidewalks, \$2,247.51; Miscellaneous (including \$1,616.72 credited the account for costs on property sold for non-payment of taxes and

assessments, and \$789.05 received from the city clerk for fees), \$2,055.15 ; other accounts, \$2,090.27 ; a total of \$29,302.49.

A few of the accounts were overdrawn : — School Teachers' Salaries, \$3,200.97 ; Overlay and Abatement shows a debit balance of \$5,076.69 ; other accounts, \$1,276.78 ; a total of \$9,554.44, — leaving a credit balance of Excess and Deficiency account of \$19,748.05.

The gross cash receipts for the year, including the

balance from the year 1877, were

\$1,141,562 47

And the gross cash disbursements were

1,134,813 69

Leaving the sum of

\$6,748 78

in the treasury at the close of the year.

Respectfully submitted,

AARON SARGENT,

Treasurer.

APPENDIX TO TREASURER'S REPORT.

Table A.

PUBLIC PROPERTY, DEC. 31, 1878.

Central Hill Land (12 acres, 27,920 feet),		\$100,000 00
City Hall,	\$10,000 00	
Furniture,	3,000 00	
		<hr/> 13,000 00
Public Library,		8,500 00
Steam Fire Engine House,	\$10,000 00	
Furniture,	500 00	
Steam Fire Engine and apparatus,	4,000 00	
Steam Fire Engine Hose Carriage and apparatus,	2,000 00	
		<hr/> 16,500 00
High School House,	\$40,000 00	
Furniture,	3,500 00	
Philosophical apparatus,	500 00	
		<hr/> 44,000 00
Prescott School House Land (21,444 feet) and Building,	\$40,000 00	
Furniture,	2,000 00	
		<hr/> 42,000 00
Luther V. Bell School House Land (23,396 feet) and Building,	\$40,000 00	
Furniture,	3,000 00	
		<hr/> 43,000 00
<i>Amount carried forward,</i>		<hr/> \$267,000 00

<i>Amount brought forward,</i>		\$267,000 00
Forster School House Land (32,693 feet) and Building,	\$40,000 00	
Furniture,	1,500 00	
	<hr/>	41,500 00
Morse School House Land (29,109 feet) and Building,	\$25,000 00	
Furniture,	1,000 00	
	<hr/>	26,000 00
Lincoln School House Land (18,000 feet) and Building,	\$11,000 00	
Furniture,	500 00	
	<hr/>	11,500 00
Prospect Hill School House Land (25,313 feet) and Building,	\$20,000 00	
Furniture,	600 00	
	<hr/>	20,600 00
Jackson School House Land (11,212 feet) and Building,	\$8,000 00	
Furniture,	300 00	
	<hr/>	8,300 00
Bennett School House Land (20,560 feet) and Building,	\$8,000 00	
Furniture,	300 00	
	<hr/>	8,300 00
Webster School House Land (11,050 feet) and Building,	\$8,000 00	
Furniture,	300 00	
	<hr/>	8,300 00
Union School House Land (9,360 feet) and Building,	\$2,500 00	
Furniture,	100 00	
	<hr/>	2,600 00
Harvard School House Land (9,810 feet) and Building,	\$2,500 00	
Furniture,	100 00	
	<hr/>	2,600 00
<i>Amount carried forward,</i>		<hr/> \$396,700 00

<i>Amount brought forward,</i>		\$396,700 00
Edgerly School House Land (26,428 feet) and Building,	\$25,000 00	
Furniture,	500 00	
	<hr/>	25,500 00
Brastow School House Land (10,019 feet) and Building,	\$6,000 00	
Furniture,	250 00	
	<hr/>	6,250 00
Franklin School House Land (33,017 feet) and Building,	\$14,000 00	
Furniture,	300 00	
	<hr/>	14,300 00
Beach Street School House Land (6,000 feet) and Building,	\$4,500 00	
Furniture,	250 00	
	<hr/>	4,750 00
Spring Hill School House Land (4,991 feet) and Building,	\$1,600 00	
Furniture,	100 00	
	<hr/>	1,700 00
City Farm Land (10 acres, 12,523 feet),		30,000 00
Cedar Street School House,	\$700 00	
Furniture,	100 00	
	<hr/>	800 00
City Stables and Dwelling Houses,		7,000 00
Equipments for Highway Repairs,		3,000 00
Watering Carts and Sheds,		2,300 00
No. 1 Hose House Land (4,312 feet) and Building,	\$2,300 00	
Furniture,	400 00	
John E. Wool Hose Carriage and apparatus,	2,000 00	
	<hr/>	4,700 00
No. 2 Hose House Land (5,400 feet) and Building,	\$7,500 00	
Furniture,	300 00	
Winter Hill Hose Carriage and apparatus,	2,000 00	
	<hr/>	9,800 00
<i>Amount carried forward,</i>		<hr/> \$506,800 00

<i>Amount brought forward,</i>		\$506,800 00
No. 3 Hose House Land (5,226 feet)		
and Building,	\$9,000 00	
Furniture,	300 00	
Geo. H. Foster Hose Carriage		
and apparatus,	2,000 00	
R. A. Vinal Hook and Ladder		
Truck and apparatus,	3,400 00	
Prescott Hook and Ladder		
Truck and apparatus,	100 00	
	<hr/>	14,800 00
No. 4 Hose House Land (9,100 feet)		
and Building,	\$11,000 00	
Furniture,	400 00	
Geo. O. Brastow Hose Car-		
riage and apparatus,	2,000 00	
Relief Hose Carriage,	600 00	
	<hr/>	14,000 00
Fire Alarm Telegraph,		15,800 00
Police Station Land (15,232 feet) and		
Building (Bow Street),	\$40,000 00	
Furniture,	3,000 00	
	<hr/>	43,000 00
Prospect Street Land (7,918 feet) and		
Building,		7,000 00
Public Park (cost \$212,993.20),		125,000 00
Joy Street Land (2,960 feet),		500 00
Walnut Hill Land (10,890 feet),		1,000 00
Ledge Land on Bond St. (39,732 feet),		2,500 00
Holland St. (5 a., 6,806 feet),		12,000 00
Somerville Ave. (39,456 feet),		5,000 00
Gravel Land in Waltham (about 35		
acres),		15,000 00
Gravel Land in Wakefield (about 1½		
acres).		5,000 00
Gravel Land in Winchester (about 2		
acres),		500 00
<i>Amount carried forward,</i>		<hr/> \$767,900 00

<i>Amount brought forward,</i>	\$767,900 00
Somerville Water Works (cost \$341,- 817.20),	341,000 00
Tufts Street Land (29,584 feet),	5,000 00
Oliver Street Land (63,069 feet),	7,500 00
	<hr/>
	\$1,121,400 00
	<hr/>

Table B.

FUNDED DEBT, DECEMBER 31, 1878, WITH DATES FOR ULTIMATE REDEMPTION, REQUIRED BY THE LAW
TO "REGULATE AND LIMIT MUNICIPAL INDEBTEDNESS."

Date.	Loan.	Numbers of Bonds.	Rate per cent of Interest.	When due.	Denomination.	Amount.	Purpose of Issue.	Date of Redemption.	Amount.
1874. April 1, " "	City, " "	44, 51, 61,	7 6½	1879. April 1, " "	\$10,000 5,000 10,000	\$10,000 5,000 10,000	Milk Street Widening Highland Avenue Widening Milk Street Widening		
1872. July 1, 1879. Oct. 1, 1874. Oct. 1, " "	" " " " Sidewalk, City, "	2, Town 1, 7, 143, 144, 145 & 146,	½ " " " 6½ " "	July 1, Oct. 1, " " " 1880. July 1, Oct. 1, "	5,454 14,400 10,000 3,000 2,000 10,000	5,454 14,400 10,000 3,000 2,000 10,000	Various: in lieu of Town note re- tired Various Sidewalks Land for Schoolhouse on Tufts Street	1895. April 1,	\$156,354
1870. July 1, Oct. 1, 18 Oct. 1, 1870. Oct. 1, 1870. Dec. 31, " "	" " " Sidewalk, Water, " "	Town 3, " 4, 8, 6, 7, Town 5, School 2,	" " " " " " "	July 1, Oct. 1, " " 1881. Jan. 1, " "	55,000 21,500 10,000 40,000 20,000 5,000 3,000	55,000 21,500 10,000 40,000 20,000 5,000 3,000	Various Sidewalks Water Works Water Works Various Morse School House	1905. April 1, 1895. April 1,	0,000 68,000
1871. April 1, Oct. 1, " " " " " " 1874. Oct. 1,	" Water, City, " " " Sidewalk,	School 3, 8 to 11 Town 6, " 7, " 8, School 4, 9,	" " " 6 6½ "	April 1, Oct. 1, " " " "	60,000 40,000 10,000 2,000 11,500 25,000 10,000	60,000 40,000 10,000 2,000 11,500 25,000 10,000	High School House Water Works Various Prescott School-house Sidewalks	1905. April 1, 1895. April 1,	40,000 106,000

Table B. — Continued.

Date.	Loan.	Number of Bonds.	Rate per cent of Interest.	When due.	Denomination.	Amount.	Purpose of Issue.	Date of Redemption.	Amount.
1875. July 1,	<i>Amount</i> Water, City,	<i>brought forward</i> 19 to 22 157	6	1885. July 1,	5,000	\$1,048,354	Water Works	1905. April 1,	\$20,000
" "	"	158	"	"	4,000	20,000	{ Winthrop Avenue Sewer Milk Street Sewer Broadway Widening	1895. April 1,	27,000
" "	"	159	"	"	3,000	4,000		1885. July 1	60,000
" "	"	160 to 162 163 to 174	"	"	5,000	5,000			
1876. April 1,	"	175 to 182 183 to 185	5½	1886. April 1,	5,000	40,000		1895. April 1,	61,000
" "	"	186	"	"	5,000	15,000	{ To pay Bonds Nos. 20 and 21 . . . To pay Bonds Nos. 45 and 48 . . . To pay Bond No. 19 To pay Water Loan Bonds Nos. 14 and 15, in part	1905. April 1,	55,500
" "	"	187	"	"	1,000	5,000			
" "	Water, " "	23 to 27 28	"	"	10,000	50,000			
1878. Jan. 1,	"	335	"	1895. Jan. 1,	5,500	5,500		1895. April 1,	40,000
" "	City, " "	336 338	"	"	37,000	1,000	{ To pay Bonds Nos. 32 to 36		
1879. Jan. 1,	"	34	"	"	2,000	2,000		1905. April 1,	25,000
1876. April 1,	Water, City,	189	5½	April 1,	25,000	25,000	{ To pay Water Loan Bonds Nos. 1, 2 and 3 in part To pay Bonds Nos. 22 to 30 & 45, in part { To pay Bonds Nos. 36 to 43, 50, 56, 58, 59, 62 to 65, 68 to 74, 97, 112 to 115 and 122	1895. April 1,	200,500
Oct. 1,	"	190 to 194 195 to 334	5	"	5,000	25,000			
" "	"		"	"	1,000	140,000			
1876. July 1,	Sewer, 1877.	1 to 7	"	1896. July 1,	5,000	35,000		1896. July 1, 1907.	35,000
Oct. 1,	Water, 1879.	33	"	Oct. 1,	5,000	5,000	{ Beacon and Elm Streets Sewer . . . Water Works To pay Water Loan Bond No. 3 in part To pay Water Loan Bonds Nos. 14 and 15 in part	Oct. 1,	5,000
Jan. 1,	"	35	"	1905. Jan. 1,	5,000	5,000		1895. April 1,	9,500
1876. April 1,	"	29	5½	April 1,	4,500	4,500		1906. July 1,	10,000
July 1,	"	30 and 31	"	1906. July 1,	5,000	10,000			
						\$1,596,854			

Table C.

STATEMENT OF ACCOUNTS, SHOWING APPROPRIATIONS,
RECEIPTS, EXPENDITURES, ETC., TO DEC. 31, 1878.

APPROPRIATIONS.

Credit.

Taxes, amount assessed for current expenses,	\$376,530 62
PROPERTY and DEBT BALANCE, Appropriated in 1878,	75,000 00
	<hr/> \$451,530 62

Debit.

CENTRAL HILL IMPROVEMENT,	\$2,000 00
FIRE DEPARTMENT,	20,800 00
HEALTH DEPARTMENT,	2,800 00
HIGHWAYS,	28,000 00
INTEREST,	84,500 00
MISCELLANEOUS,	8,000 00
POLICE,	23,100 00
POLICE STATION INCIDENTALS,	2,500 00
PUBLIC LIBRARY,	1,200 00
PUBLIC PARK MAINTENANCE.	2,000 00
REDUCTION OF FUNDED DEBT,	85,000 00
SALARIES,	17,800 00
SCHOOL CONTINGENT,	10,000 00
SCHOOLHOUSE REPAIRS,	5,000 00
SCHOOL FUEL,	3,000 00
SCHOOL TEACHERS' SALARIES,	63,500 00
SEWERS,	7,000 00
SINKING FUND CONTRIBUTIONS,	45,880 62
SOLDIERS' RELIEF,	800 00
STREET LIGHTS,	7,000 00
SUPPORT OF POOR,	12,900 00
SIDEWALKS,	5,000 00
WATER MAINTENANCE,	13,750 00
	<hr/> \$451,530 62 <hr/>

CASH.

Credit.

CENTRAL HILL IMPROVEMENT,	\$1,558 61
COUNTY OF MIDDLESEX,	11,153 27
FIRE DEPARTMENT,	21,280 20
FUNDED DEBT,	85,000 00
HEALTH DEPARTMENT,	2,991 01
HIGHWAYS,	31,751 44
INTEREST,	91,249 89
LIQUOR LICENSES,	1,118 75
MISCELLANEOUS,	7,802 90
MISCELLANEOUS (WATERING STREETS),	3,021 39
POLICE,	25,307 23
POLICE STATION INCIDENTALS,	2,465 22
PUBLIC LIBRARY,	2,885 58
PUBLIC PARK,	597 53
PUBLIC PARK MAINTENANCE,	2,043 72
SALARIES,	17,799 36
SCHOOL CONTINGENT,	10,232 17
SCHOOL TEACHERS' SALARIES,	66,700 97
SCHOOLHOUSE REPAIRS,	5,414 85
SCHOOL FUEL,	2,676 33
SEWERS,	11,785 65
SEWERS (BEACON AND ELM STREET SEWER),	972 83
SIDEWALKS,	5,222 92
SINKING FUND CONTRIBUTIONS,	45,880 62
SOLDIERS' RELIEF,	895 57
SOMERVILLE WATER WORKS,	1,030 68
STATE AID.	4,308 50
SUPPORT OF SOLDIERS AND SAILORS,	2,464 00
STATE OF MASSACHUSETTS,	15,440 00
STREET LIGHTS,	6,894 75
SUPPORT OF POOR,	17,495 48
TAXES,	232 74
TEMPORARY LOANS,	600,000 00
WATER MAINTENANCE,	27,201 56
WATER SERVICES,	1,937 97
	<hr/>
	\$1,134,813 69
BALANCE, to debit in account of 1879,	6,748 78
	<hr/>
	\$1,141,562 47

Debit.

BALANCE from 1877,	\$5,133 96
FIRE DEPARTMENT,	118 88
FUNDED DEBT,	75,000 00
HEALTH DEPARTMENT,	4 00
HIGHWAYS,	1,156 35
HIGHWAY BETTERMENT ASSESSMENTS,	7,377 30
INCIDENTALS,	6,275 20
INTEREST,	16,870 00
LIQUOR LICENSES,	4,475 00
MISCELLANEOUS,	1,739 66
MISCELLANEOUS (WATERING STREETS),	2,010 05
POLICE,	1,730 95
POLICE STATION INCIDENTALS,	220 75
PUBLIC LIBRARY,	1,304 92
PUBLIC PARK BETTERMENT ASSESSMENTS	2,887 50
PUBLIC PARK MAINTENANCE,	46 00
REAL ESTATE LIENS,	4,396 63
SCHOOL CONTINGENT,	235 94
SCHOOLHOUSE REPAIRS,	332 40
SEWERS,	90 84
SEWERS (BEACON AND ELM STREET SEWER),	100 00
SEWER ASSESSMENTS,	10,880 97
SIDEWALKS,	13 90
SIDEWALK ASSESSMENTS,	557 75
SOMERVILLE WATER WORKS,	516 55
STATE OF MASSACHUSETTS, — STATE AID,	4,223 50
STREET LIGHTS,	217 75
SUPPORT OF POOR,	4,942 16
SUPPORT OF SOLDIERS AND SAILORS	24 00
TAXES,	437,507 87
TEMPORARY LOANS,	535,000 00
WATER MAINTENANCE,	13,630 07
WATER SERVICES,	153 48
WATER SERVICE ASSESSMENTS,	2,388 14
	<hr/>
	\$1,141,562 47

CENTRAL HILL IMPROVEMENT.

Credit.		
APPROPRIATIONS, amount assessed,		\$2,000 00
Debit.		
CASH, paid laborers,	\$294 52	
G. F. Fisher, constructing path,	420 32	
F. L. Temple, trees and hedge,	549 50	
A. Parker, gateway,	135 00	
C. A. Mongan, sodding,	115 45	
Walworth Man'fg Co., catch-basin gratings,	15 00	
Sewers' Account, brick, cement, labor, etc.,	14 02	
Fiske & Coleman, pipe,	8 49	
Howe & Flint, "	1 56	
Highways Account, stone,	2 50	
Jereh. McCarty, "	2 25	
	<hr/>	\$1,558 61
EXCESS AND DEFICIENCY, balance to credit of account,	441 39	
	<hr/>	<u>\$2,000 00</u>

COUNTY OF MIDDLESEX.

Credit.		
TAXES, amount assessed for county tax,		\$11,153 27
Debit.		
CASH, paid county tax,		<u>\$11,153 27</u>

EXCESS AND DEFICIENCY.

Credit.		
BALANCE, from 1877,		\$8,407 16
CENTRAL HILL IMPROVEMENT, credit balance of account,	441 39	
HIGHWAYS, credit balance of account,	1,539 93	
HIGHWAYS (FLORENCE STREET), credit balance of account,	100 00	
INCIDENTALS, credit balance of account,	6,275 20	
INTEREST, " " "	11,738 18	
Amount carried forward,		<u>\$28,501 86</u>

<i>Amount brought forward,</i>	\$28,501 86
LIQUOR LICENSES, credit balance of account,	3,356 25
MISCELLANEOUS, " " "	2,055 15
POLICE STATION INCIDENTALS, credit balance of account,	255 53
PUBLIC PARK MAINTENANCE, credit balance of account,	2 28
SCHOOL CONTINGENT, credit balance of account,	3 77
SCHOOL FUEL, " " "	323 67
SUPPORT OF POOR, " " "	346 68
STREET LIGHTS, " " "	323 00
SEWERS, " " "	1 61
SALARIES, " " "	64
SIDEWALKS, " " "	2,247 51
WATER MAINTENANCE, " " "	291 70
	<hr/>
	\$37,709 65

Debit.

FIRE DEPARTMENT, debit balance of account,	\$361 32
HEALTH DEPARTMENT, debit balance of account,	187 01
HIGHWAYS (NEWTON STREET), debit balance of account,	74 15
OVERLAY AND ABATEMENT, debit bal- ance of account,	5,076 69
POLICE, debit balance of account,	476 28
SCHOOL TEACHERS' SALARIES, debit balance of account,	3,200 97
SCHOOLHOUSE REPAIRS, debit balance of account,	82 45
SOLDIERS' RELIEF, debit balance of account,	95 57
	<hr/>
	\$9,554 44
HIGHWAYS, transferred,	4,135 02
HIGHWAYS (MORRISON STREET), trans- ferred,	2,457 14
HIGHWAYS (APPLETON STREET), trans- ferred,	883 87
	<hr/>
<i>Amount carried forward,</i>	\$17,030 47

<i>Amount brought forward,</i>	\$17,030 47	
HIGHWAYS (GLEN STREET), transferred,	649 19	
HIGHWAYS (FLORENCE STREET), “	281 94	
	<hr/>	
	\$17,961 60	
BALANCE, to credit in account of 1879,	19,748 05	
	<hr/>	
		\$37,709 65
		<hr/>

FIRE DEPARTMENT.

Credit.

APPROPRIATIONS, amount assessed,		\$20,800 00
CASH, received of the Chief Engineer,		
amount received by him for manure, etc.,	\$53 88	
of Sewers Account for hose,	60 00	
	<hr/>	118 88
EXCESS AND DEFICIENCY, balance to debit of account,		361 32
		<hr/>
		\$21,280 20

Debit.

CASH, paid James R. Hopkins, Chief Engineer,	\$800 00
N. C. Barker, Assistant Engineer,	400 00
Theophilus Cunningham, Clerk to Chief Engineer,	50 00
Steamer Engineer,	900 00
Steamer Fireman,	750 00
Seven Drivers,	5,250 00
G. W. Ring, Substitute Driver,	118 70
W. F. Barker, Substitute Driver,	114 00
Theophilus Cunningham, Substitute Driver,	29 16
labor on hydrants,	12 00
Steamer Engine Co.,	736 75
John E. Wool Hose Co.,	705 00
Winter Hill “	705 00
Geo. H. Foster, “	686 25
Geo. O. Brastow, “	705 00
R. A. Vinal H. & L. “	1,148 75
	<hr/>
<i>Amount carried forward,</i>	\$13,110 61

<i>Amount brought forward,</i>	\$13,110 61
Hunneman & Co., repairs,	1,306 04
Cook, Rymes & Co., “	107 22
Gallishaw & Kennealy, “	29 50
J. F. Kennealy, repairs,	6 45
City of Boston, water for hydrants,	1,176 00
water-rates,	110 00
Water Maintenance account, labor on hydrants,	241 52
Seward Dodge, blacksmithing,	174 42
J. Leland, wheelwright work,	23 30
J. W. Gerry, horse-shoeing,	40 75
J. G. Harmon, “	26 97
Timothy Brennan, “	25 88
S. Gould, “	75
Chas. Maguire, “	49 25
Edward O'Brien, “	13 11
N. Tufts & Son, grain,	524 40
W. M. Hadley, hay and straw,	653 62
J. F. Brine, “ “	39 92
J. H. Brine, straw,	26 92
J. F. Ham, hay,	31 14
J. A. Porter & Co, hay,	31 74
L. G. Burnham & Co., fuel,	42 60
H. Wellington & Co., “	305 53
Support of Poor account, wood,	24 40
Cambridge Gas Light Co., gas,	419 34
Charlestown “ “ “ “	204 35
A. T. Colburn, harness work,	27 40
J. N. White, “ “	16 09
F. Ivers, “ “	2 60
N. L. Pennock, “ “	16 50
T. B. Wilson, “ “	33 00
Maurice Reardon, collars,	11 00
G. H. Foster Hose Co., harness,	15 00
H. A. Winship, “	12 00
Wm. T. Richardson, coal,	56 00
L. W. Dow, carrots,	14 62

Amount carried forward, \$18,949 94

<i>Amount brought forward,</i>	\$18,949 94
Sewer Assessment Account, as-	
essment on sewer,	75 53
R. Warner & Co., brushes,	10 63
Hogg, Brown & Taylor, blankets,	4 50
Elijah Walker, carpenter work,	96 41
Albert Caswell, " "	7 50
F. Dooris, " "	4 25
Page & Littlefield, lumber,	29 51
L. C. Seavey, slating, etc.,	34 75
D. Brooks, mason work,	100 38
J. H. Hollis, painting, etc.,	5 90
Ramsey Clark, "	4 60
Geo. E. Copp, "	16 00
W. S. Walker, glazing,	6 50
J. Q. Twombly, "	8 50
E. H. Buxton, painting,	6 00
Edward Early, repairing roofs,	19 30
Boston Belting Co., hose, etc.,	7 59
Howe & Flint, repairing hose, etc.,	6 30
J. L. Crafts, repairing tackle, etc.,	4 03
Ame & Co., feed,	8 00
Thos. Hollis, drugs,	22 13
G. H. Cowdin, alcohol, etc.,	3 15
J. J. Loan, soap,	6 00
Mason, Davis & Son, soap,	4 00
Bishop & Bro., ladder, etc.,	32 50
John McHugh, "	5 00
Calvin Horton, plumbing, etc.,	109 10
J. A. Durell, " "	3 90
Thos. Geghan, building fence,	
etc.,	8 75
Am. Fire Hose Manf'g Co., re-	
pairing hose,	29 63
James McDonald, repairing gas-	
pipe,	1 60
W. J. London, expressing,	10 00
Thorpe's Express, expressing,	7 50
G. W. Prichard, use of horses and	
teaming,	22 00
<i>Amount carried forward,</i>	<u>\$19,671 38</u>

<i>Amount brought forward,</i>	\$19,671 38
H. W. Kimball, ringing bell,	3 00
Chas. Holmes & Son., repairing stoves, etc.,	66 83
Snow & Chase, repairing stoves, etc.,	7 19
Patrick Keeley, labor,	4 00
G. H. Mason & Co., lantern,	30 00
J. A. Anderson, sheets, etc.,	4 10
T. C. Joslyn, trees,	7 00
A. E. Hart, gas burners,	5 00
H. W. Raymond, hardware, etc.,	21 85
W. L. Snow, " "	4 41
Lewis Putnam, veterinary ser- vices,	30 00
H. F. Moore, repairing wagon,	50
Flynn Bros., bedstead, etc.,	9 50
E. R. Perham, expressing,	8 05
J. O. Hayden & Co., printing,	11 00
M. R. Warren, stationery,	5 00
Barker & Tibbetts, expressing,	11 25
G. W. Manning, " "	75
S. A. Mudgett, damage to fence,	5 08
Powers & Edmands, water keg,	1 00
D. Cutter, repairing badges,	2 65
Trustees Blake Hose Co., hose,	160 00
James Boyd & Sons, repairing hose,	22 50
J. Redding & Co., telegraph wire, etc.,	26 88
Chas. Williams, Jr., vitriol, wire, etc., for telegraph,	153 50
Walworth Manuf'g Co., zinc,	161 45
J. F. Cole & Co., oil, vitriol, etc.,	144 18
Union Glass Co., repairing lan- terns,	3 00
W. L. Robinson, medicine,	2 25
James Bartley, naphtha, etc.,	18 26
Farrar, Follett & Co., wire for tel- egraph,	25 07
<i>Amount carried forward,</i>	<hr/> \$20,626 63

<i>Amount brought forward,</i>	\$20,626 63
Conant & Wilbur, telegraph poles,	29 30
E. J. Brown, as watchman,	6 00
G. H. Musgrave, services as fire- man,	2 50
Sundry Firemen, extra services,	154 00
Mrs. R. A. Trull, washing,	49 49
S. H. Stevens, “	29 75
C. P. Howard, “	40 71
T. H. Daley, “	28 75
Isabella Calvert, “	48 52
Mary Maguire, “	8 00
T. J. McCormic, refreshments,	125 00
G. A. Sanborn & Co., “	6 05
Geo. E. Tyler, “	20 00
P. H. Raymond Engine Co., re- freshments,	30 00
Cambridge Engine Co. No. 1, re- freshments,	10 00
Niagara Engine Co. No. 1, re- freshments,	10 00
Daniel Webster Engine Co., re- freshments,	10 00
Cambridge Engine Co. No. 2, re- freshments,	10 00
Joseph Swan Engine Co., re- freshments,	5 50
Mystic Hose Co., refreshments,	10 00
Mayor Bradford H. & L. Co., refreshments,	10 00
Franklin H. & L. Co., refresh- ments,	10 00
	<hr/>
	\$21,280 20

FUNDED DEBT.**Credit.**

BALANCE, from 1877,	\$1,606,854 00
CASH, received from sale of Bonds Nos. 335, 336, 337 and 338 City Loan, and Bonds Nos. 34 and 35 Water Loan,	75,000 00
	<hr/>
	\$1,681,854 00

Debit.

CASH, paid Sidewalk Loan Bond No. 6,	\$10,000 00
City Loan Bonds Nos. 31 to 35,	45,000 00
Water Loan Bonds No. 1 to 3,	30,000 00
	<hr/> \$85,000 00
BALANCE, to credit in account of 1879,	1,596,854 00
	<hr/> \$1,681,854 00

HEALTH DEPARTMENT.

Credit.

APPROPRIATIONS, amount assessed,	\$2,800 00
CASH, received for ashes,	4 00
EXCESS AND DEFICIENCY, balance to debit of account,	187 01
	<hr/> \$2,991 01

Debit.

CASH, paid Henry Gray, removing offal,	\$900 00
G. W. Cummings, " "	408 32
Highways account, collecting ashes,	578 34
C. A. Mongan, " "	136 50
J. N. Whittemore & Co., station- ery,	22 25
Winkley, Thorp & Dresser, sta- tionery,	5 00
M. R. Warren, postage stamps and stationery,	19 97
M. C. Parkhurst, cost of serving notices, moving family, etc.	9 00
M. J. Walsh, serving notices,	13 36
J. J. Murphy, "	2 16
J. E. Eldredge, "	3 50
J. R. Fairbairn, "	1 08
P. W. Skinner, fumigating,	15 00
Sturtevant Bros., sulphur,	1 80
Henry Shaw, posting notices,	5 00
A. L. Sanborn, carriage hire,	25 00
L. H. Brown, "	2 00
W. S. & G. O. Wiley, "	4 00
	<hr/>
Amount carried forward,	\$2,152 28

<i>Amount brought forward,</i>	\$2,152 28	
C. W. Learned & Co., disinfectant,	20 58	
C. D. Elliot, surveying, etc.	5 00	
Guild & Delano, badges,	16 50	
G. H. Cowdin, peppermint tubes, etc.,	21 15	
Sundry persons, burying dead ani- mals,	8 00	
J. O. Hayden & Co., printing and advertising,	115 90	
Miscellaneous account, printing,	18 00	
Haskell Bros. “	18 60	
A. L. Haskell & Co. “	10 00	
George I. Vincent, clerk of Board of Health,	100 00	
W. H. Brine, inspector of Board of Health,	200 00	
extra compensation,	300 00	
for cleaning, etc.	5 00	
		<hr/>
		\$2,991 01
		<hr/>

HIGHWAYS.

Credit.

APPROPRIATIONS, amount assessed,		\$28 000 00
CASH, received from : —		
J. P. Prichard, amount received by him for stone, labor, etc.,	\$41 64	
for constructing driveway,	26 40	
B. F. Tyler, for constructing drive- way,	25 50	
J. F. Cole, amount received by him for pasturage at City Farm,	40 00	
Edwin Bowker, rent of gravel land at Waltham, two years,	160 00	
City of Cambridge, labor at Ale- wife Brook,	42 00	
Health Department account, for collecting ashes,	578 34	
Sewers account, for teaming,	83 15	
		<hr/>
<i>Amount carried forward,</i>	\$997 03	

<i>Amount brought forward,</i>	\$997 03	
Schoolhouse Repairs account, for gravel, etc.,	16 90	
Central Hill Improvement account, for stone,	2 50	
Miscellaneous account, for labor setting monuments,	7 50	
Discount on tax bills on gravel land,	1 42	
Rent of tenements at City Farm,	131 00	
	<hr/>	\$1,156 35
EXCESS AND DEFICIENCY, transferred,		4,135 02
		<hr/>
		\$33,291 37

Debit.

CASH, paid laborers,	\$16,545 15
Sundry persons, for labor-tickets issued to laborers in 1877,	8 00
C. L. Heywood, gravel,	2,660 32
P. O. Reardon, “	51 59
Conant & Wilbur, paving stone,	60 00
A. C. Sanborn, stone, etc.	568 46
F. Buttimer, stone,	74 40
J. Carr, “	86 40
T. F. Crimmings, stone,	191 20
Daniel Radley, “	56 80
John Riley, “	78 40
J. Keeler, “	2 90
J. Murphy, “	17 60
H. W. & J. C. Van Voorhis, gravel,	96 90
H. E. Willis, gravel,	16 50
James McCormick, filling mate- rial,	12 25
Somerville Bleachery Co., cinders, etc.,	27 60
Mrs. A. L. Rich, gravel,	80 10
F. L. Gilman, stone,	6 82
J. F. Elkins, teaming,	136 00
Wm. Aylward, “	14 00
Chris'r Burke, “	22 00
<i>Amount carried forward,</i>	<hr/> \$20,813 39

<i>Amount brought forward,</i>	\$20,813 39
J. Welch, teaming,	11 90
G. W. Prichard, stone, gravel, and teaming,	1,214 13
Margaret Pepper, teaming,	51 00
D. D. Pike, “	5 00
Owen Casey, stone and teaming,	147 00
Jeremiah McCarty, stone and teaming,	176 60
Henry Gray, stone and teaming,	16 40
John Downey, “ “	20 00
M. Norton, “ “	65 50
John McCauley, stone and teaming,	170 00
D. McCarty, “ “	196 85
Jeremiah O'Brien, “ “	539 85
John Turner & Co., paving, etc.,	2,160 94
filling material,	297 00
O. S. Foster, brick,	45 00
S. W. Fuller, lumber,	88 94
Crowell Bros. & Co., paint, etc.,	27 56
Cook, Rymes & Co., snow- scrapers, etc.,	21 50
F. L. Temple, trees,	39 00
Lovering & Dodge, boom derrick,	78 00
Morse & Whyte, screens,	18 00
G. Greenleaf & Co., screens,	5 00
Thomas Hollis, drugs,	14 05
C. Holmes & Son, lanterns, etc.,	21 56
Ames Plow Co., shovels,	25 20
J. Breck & Sons, hose,	12 00
Underhill Bros., axe, etc.,	2 10
Parker & Gannett, shovels, etc.,	15 15
Geo. H. Sampson, powder,	38 70
H. B. Emerson, cement,	4 00
Snow & Chase, nails,	1 00
City of Boston, water-rates,	36 75
A. H. Folsom, photographing,	17 00
J. Leland, wheelwright work,	41 28
J. F. Kennealy, wagon,	35 00
<i>Amount carried forward,</i>	<u>\$26,472 35</u>

<i>Amount brought forward,</i>	\$26,472 35
Seward Dodge, blacksmithing,	432 77
M. Lynch, “	69 65
L. C. Webster, “	1 50
Edward Coliton, sharpening picks,	1 78
J. G. Harmon, horse-shoeing,	97 75
Edward O'Brien, “	61 54
Peabody & Whitney, pails,	1 50
Robert Webb & Co., grease,	7 00
C. C. Potter, operating on horses' teeth,	2 00
S. L. Pratt, carriage hire,	3 50
Henry Hoyt, hammer handles,	5 00
Dodge, Gilbert & Co., hammer handles,	14 20
Town of Waltham, tax on gravel land,	80 60
Town of Wakefield, tax on gravel land,	20 58
Town of Winchester, tax on gravel land,	8 00
W. D. Smith, painting,	4 75
W. H. Murphy, “	1 20
Gallishaw & Kennealy, blacksmithing,	9 45
Milo Scott, mowing City Farm,	20 00
J. P. Squire & Co., salt,	3 20
H. P. Hemenway, medical attendance,	6 00
M. R. Warren, stationery,	1 35
S. J. Wood, filing saws, etc ,	3 00
C. H. Bullard, fuse,	40
James Bartley, alcohol,	1 13
J. S. Sanborn, desk,	8 00
Ame & Co., feed,	14 00
Boston Steam Grain Mill, feed,	1 10
Sturtevant Bros., oil,	6 97
Daniel Brooks, mason work,	22 62
Pickett & Lovering, “	9 68
Thomas Long, carpenter work,	213 90
<i>Amount carried forward,</i>	<hr/> \$27,606 47

<i>Amount brought forward,</i>	\$27,606 47
Albert Caswell, carpenter work,	20 00
R. A. Melvin, “	9 19
E. D. Sawyer & Co., lumber,	56 31
W. A. Sanborn, “	3 50
J. Q. Twombly, painting,	40 57
Geo. E. Copp, “	12 00
J. J. Underhill, coal,	12 72
W. M. Hadley, hay, straw, coal, etc.,	399 29
J. F. Ham, hay,	206 71
Scott & Bridge, hay,	25 07
Hewey Skillins & Co, hay,	32 49
B. F. Tyler, straw,	12 32
N. Tufts & Son, grain,	306 35
Powers, Melvin & Co., grain,	291 62
J. F. Cole & Co., “	495 34
Lewis Putnam, veterinary services,	2 00
C. H. Crane, medicine, etc.,	7 02
Jairus Mann, use of team,	5 00
E. R. Perham, expressing,	50
H. W. Raymond, hardware,	32 07
Davis, Stebbins & Co., “	7 42
W. T. Henderson, repairing cart, etc.,	5 00
J. O. Hayden & Co., printing,	8 00
Town of Medford, half cost of maintaining Middlesex Ave. Bridge in 1877,	336 09
Sabin & Page, harness work,	81 39
James Forgie, “	29 50
T. B. Wilson, “	20 95
A. T. Colburn & Co., “	30 55
J. G. Knapp, “	6 00
John P. Prichard, Superintendent of Streets,	1,350 00
Douglas Frazar, clerk of Commit- tee on Highways,	200 00
E. F. Prichard, clerk to Superin- tendent of Streets,	100 00
<i>Amount carried forward,</i>	\$31,751 44

<i>Amount brought forward,</i>	\$31,751 44	
EXCESS AND DEFICIENCY, balance to credit of account,	1,539 93	
	<hr/>	\$33,291 37

HIGHWAYS (MORRISON STREET).

Credit.

EXCESS AND DEFICIENCY, amount to debit of account,	\$2,457 14
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Debit.

HIGHWAY BETTERMENT ASSESSMENTS, assessments abated,	\$2,457 14
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HIGHWAYS (APPLETON STREET).

Credit.

EXCESS AND DEFICIENCY, amount to debit of account,	\$883 87
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Debit.

HIGHWAY BETTERMENT ASSESSMENTS, assessments abated,	\$883 87
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HIGHWAYS (GLEN STREET).

Credit.

EXCESS AND DEFICIENCY, amount to debit of account,	\$649 19
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Debit.

HIGHWAY BETTERMENT ASSESSMENTS, assessments abated,	\$649 19
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HIGHWAYS (NEWTON STREET).

Credit.

EXCESS AND DEFICIENCY, amount to debit of account,	\$74 15
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Debit.

HIGHWAY BETTERMENT ASSESSMENTS, assessments abated,	\$68 72	
REAL ESTATE LIENS, abated	5 43	
	<hr/>	\$74 15

HIGHWAYS (FLORENCE STREET).

Credit.

EXCESS AND DEFICIENCY, amount to debit of account,	\$281 94
HIGHWAY BETTERMENT ASSESSMENTS, assessment,	100 00
	<u>\$381 94</u>

Debit.

HIGHWAY BETTERMENT ASSESSMENTS, assessments	\$281 94
EXCESS AND DEFICIENCY, balance to credit of account,	100 00
	<u><u>\$381 94</u></u>

HIGHWAY BETTERMENT ASSESSMENTS.

Credit.

HIGHWAYS (NEWTON STREET), assessments abated,	\$68 72
HIGHWAYS (FLORENCE STREET), assessments abated,	281 94
HIGHWAYS (APPLETON STREET), assessments abated,	883 87
HIGHWAYS (GLEN STREET), assessments abated,	649 19
HIGHWAYS (MORRISON STREET), assessments abated,	2,457 14
REAL ESTATE LIENS, titles to the city for non-payment of assessments,	1,330 15
CASH, received of sundry persons, assessments,	7,377 30
BALANCE, to debit in account of 1879,	16,039 83
	<u>\$29,088 14</u>

Debit.

BALANCE, from 1877,	\$28,988 14
HIGHWAYS (FLORENCE STREET),	100 00
	<u><u>\$29,088 14</u></u>

INCIDENTALS.

Credit.

CASH, received of the State Treasurer: —	
Balance on Corporation and Bank Tax for 1877,	\$608 30
On account of Corporation Tax for 1878,	2,572 56
On account of Bank Tax for 1878,	3,094 34
	<u><u>\$6,275 20</u></u>

Debit.

EXCESS AND DEFICIENCY, amount to
credit of account,

\$6,275 20

INTEREST.**Credit.**

APPROPRIATIONS, amount assessed,		\$84,500 00
CASH, received on deposits in banks,	\$1,452 69	
On taxes,	14,299 05	
On tax titles released,	257 87	
On betterments,	833 07	
Of Boston Five Cents Savings Bank, allowed on money bor- owed,	27 32	
		<u>16,870 00</u>

REAL ESTATE LIENS, interest on titles
to the city on property deeded
for non-payment of taxes and
assessments,

1,618 07
\$102,988 07

Debit.

CASH, paid on Funded Debt: Coupons
of Sidewalk Loan Bonds, Nos.
6 to 10 inclusive; Town Loan
Bonds, Nos. 1 and 3 to 8 in-
clusive; School Loan Bonds,
Nos. 2 to 4 inclusive; City Loan
Bonds, Nos. 1 to 17, 31 to 44,
49 to 338 inclusive; and Sewer
Loan Bonds, Nos. 1 to 7 inclu-
sive: —

\$55,000.00, 1 year, at 7 per cent,	\$3,850 00
\$761,000.00, 1 year, at 6½ per cent,	49 465 00
\$115,000.00, 1 year, at 6 per cent,	6,900 00
\$140,854 00, 1 year, at 5½ per cent,	7,747 00
\$238,000.00, 1 year, at 5 per cent,	11,900 00
\$7,000.00, 6 months, at 5 per cent,	175 00
	<u>\$80,037 00</u>

CASH, paid on Temporary Loans : —

Aaron Sargent, trustee, on note for \$20,000.00, 6 months at $4\frac{1}{4}\%$	\$425 00
A. Sargent and E. E. Adams, trustees, on note for \$10,000.00, 6 months at $4\frac{1}{4}$ per cent,	212 50
Chas. Wilson, on note for \$5,000 6 months at $4\frac{1}{4}$ per cent,	106 25
New England Trust Co., on note for \$235,000.00, 6 months and 3 days at $4\frac{1}{4}$ per cent,	5,077 00
Boston Safe Deposit & Trust Co., on note for \$80,000.00, 43 days at $3\frac{1}{2}$ per cent,	334 45
On notes for \$210,00.00, borrowed of Stone & Downer, 6 months at 4 per cent,	4,200 00
Aaron Sargent, trustee, on note for \$20,000.00, 6 months at 4 per cent.	400 00
A. Sargent and E. E. Adams, trustees, on note for \$15,000.00, 6 months at 4 per cent,	300 00
Chas. Wilson, on note for \$5,000, 6 months at 4 per cent,	100 00
First Baptist Society, on taxes recovered back,	57 69

\$11,212 89

ON FUNDED DEBT,	\$80,037 00
TEMPORARY LOANS, ETC.,	11,212 89

\$91,249 89

EXCESS AND DEFICIENCY, balance to credit of account,	11,738 18
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\$102,988 07

LIQUOR LICENSES.

Credit.

CASH, received for : —

First Class, 14 at \$150 each,	\$2,100 00
Fourth Class, 27 at \$75 each,	2,025 00
Fourth Class, 7 at \$50 each,	350 00

 \$4,475 00

Debit.

CASH, paid State Treasurer, one fourth of amount received,

\$1,118 75

EXCESS AND DEFICIENCY, balance to credit of account,

3,356 25

 \$4,475 00

MISCELLANEOUS.

Credit.

APPROPRIATIONS, amount assessed,

\$8,000 00

REAL ESTATE LIENS, costs on titles to the city, on property deeded for non-payment of taxes and assessments,

1,129 73

CASH, received : —

Costs on property sold for non-payment of taxes and assessments,

\$486 99

Of the city clerk, fees for recording mortgages, etc., and for marriage certificates,

693 25

and on dog licenses,

95 80

Town of Medford, half cost setting boundary stone,

75 00

Health Department account, printing bills paid,

18 00

Frank Sallaway, part cost of cemetery wall,

20 00

Michael Dayton, part cost of cemetery wall,-

15 00

C. H. Wiswell, costs of court in suit on betterment,

85 37

Amount carried forward,

 \$1,489 41


<i>Amount brought forward,</i>	\$1,489 41	
J. W. Hannum, costs of court in suit on betterment,	85 37	
Overcredited Ward Officer by Com- mittee in 1877,	3 00	
Public Park account, expert ser- vices paid,	155 40	
M. R. Warren, amount over ap- proved to him by Committee,	6 48	
		1,739 66
		<u>\$10,869 39</u>

Debit.

CASH, paid M. R. Warren, stationery,	\$245 32	
Hooper, Lewis & Co., stationery,	54 50	
J. M. Whittemore, “	73 25	
C. K. Darling, “	21 00	
Geo. B. King, “	19 83	
Cutter, Tower & Co. “	6 40	
Babb & Stephens, printing,	203 36	
J. E. Farwell & Co. “	45 00	
James Cooper, “	1 00	
Clerk of Courts, printing and fees,	33 60	
J. O. Hayden & Co., advertising and printing,	1,252 25	
Haskell Bros., advertising,	64 79	
R. M. Pulsifer & Co. “	2 25	
Globe Newspaper Co., advertis- ing,	2 50	
P. J. Gannon, newspapers,	3 70	
C. M. Blake, “	3 00	
Sampson, Davenport & Co., Di- rectories,	10 00	
S. M. Jenks, newspapers,	2 25	
Chas. E. Gilman, postage stamps and pens,	9 20	
T. B. Jones & Co., bookcase,	23 00	
Ward Officers,	136 00	
Ingalls & Kendrickson, repairing heating apparatus,	12 77	
<i>Amount carried forward,</i>	<u>\$2,224 97</u>	

<i>Amount brought forward,</i>	\$2,224 97
Bagnall & Loud, block,	3 25
Dee & Doyle, funeral column,	60 00
G. W. Manning, care of flag-staff, labor, etc.,	53 00
H. M. Dow, use of carburetter,	60 35
Frost & Adams, materials for City Engineer,	42 04
City of Lowell, support of truants,	298 46
Cambridge Gas-Light Co., gas,	252 59
Geo. I. Vincent, taking abstracts from deeds,	200 00
City of Boston, water-rates,	50 00
Post-Office, rent of box,	4 00
Geo. H. Cowdin, alcohol, etc.,	3 95
C. Holmes & Son, duster, etc.,	11 37
S. C. Darling, court fees,	106 95
First Baptist Society, costs of court in suit,	26 91
Samuel Walker & Co., costs of court in suit,	75 11
C. C. Reed, costs of court in suit,	43 42
C. T. Gallagher, costs of court in suit,	211 24
Jairus Mann, amount paid wit- nesses,	173 80
J. S. Daniels, witness fees,	10 00
Daniels & Hathaway, services as experts,	27 00
Chas. W. Sawyer, services as ex- pert,	45 00
Chas. G. Pope, services as expert, examining deeds, etc.,	85 00
Geo. R. Kelso, services as expert,	28 40
Ira Taylor, conveying jury,	4 00
J. E. Eldridge, conveying jury,	8 00
Elizabeth Brown, compensation for damages received on highway,	150 00
E. Fitzgerald, building cemetery wall,	269 17
<i>Amount carried forward,</i>	<u>\$4,527 98</u>

<i>Amount brought forward,</i>	\$4,527 98
M. H. Norwood, building fence at cemetery,	77 00
L. M. Maynard, labor at cemetery,	12 00
Michael Condon, " " "	1 50
R. A. Melvin & Co., carpenter work,	4 40
G. W. Lawson, carpenter work,	56 63
Lewis Hunt, " "	2 25
L. H. Snow, " "	9 87
N. C. Barker, " "	11 64
J. McDevitt, plumbing,	8 00
Hamblen & Mathews, wash-bowl,	12 00
Trustees Boston Lead Co., lead pipe,	3 14
J. M. Coburn, janitor at Ward room,	11 25
Robert Thompson, janitor at Ward room,	12 00
J. C. Davidson, janitor at Ward room,	12 50
H. D. & W. S. Durgin, ice,	50 00
E. S. Bailey, cleaning clock,	2 50
J. H. Brooks, pins and needles,	89
Union Glass Co., shades,	75
Mrs. R. A. Trull, repairing flag,	3 00
C. E. Cobb, badges, towels, etc.	20 25
G. F. Conant, surveying,	6 00
C. D. Elliot, "	24 00
S. J. Wood, fitting keys, etc.,	7 95
Geo. A. Pratt, doorkeeper for Assessors,	15 00
Powers & Edmands, keg,	5 00
Support of Poor Account, fuel,	17 90
James Bartley, matches, etc.,	1 87
Sewell, Day & Co., halyards,	2 80
Flynn Bros., repairing chair,	1 00
A. Caswell, labor,	2 50
J. Stone, "	1 00
<i>Amount carried forward,</i>	<u>\$4,924 57</u>



<i>Amount brought forward,</i>	\$4,924 57
H. Kimball, labor,	1 00
H. F. Maynard, labor at City Hall,	22 75
A. E. Mann, services at City Hall,	2 00
Highways account, setting monuments,	7 50
Sewer Assessment account, assessment on sewer,	184 00
Water Service account, fittings, etc.,	37 81
H. W. Raymond, hardware,	12 78
Howe & Flint, hardware and drain pipe,	14 35
A. J. Carter, hat rack,	5 00
Daniel Brooks, mason work,	17 00
A. C. Sanborn & Co., stone blocks,	13 00
F. L. Temple, trees,	30 00
J. Q. Twombly, glazing,	4 95
W. J. London, expressing,	19 25
Thorpe's express, "	1 00
F. W. Lincoln & Co., steel tape etc.,	21 00
Wm. K. Perkins, release of tax title on gravel land at Wakefield,	57 00
Middlesex Registry, recording deed,	60
E. W. Drake, plumbing, etc ,	4 10
F. A. Titus, gas fixture,	1 25
Henry Shaw, posting notices,	32 00
A. L. Sanborn, carriage hire,	68 00
H. A. Pratt, " "	24 00
C. W. Daly, " "	3 00
Jairus Mann, maintenance of team,	50 00
for use of team,	8 00
watching at City Hall,	47 50
amount paid for washing, labor, etc.,	19 30
Page, Harding & Co., glass,	2 50
R. Sherburne, "	6 00
L. W. Manning, cleaning carpets,	8 33
Chas. F. Kerwin, drinking fountain,	70 00
<i>Amount carried forward,</i>	<u>\$5,719 54</u>

<i>Amount brought forward,</i>	\$5,719 54
H. M. Bird, castings,	2 79
Joseph Young, ringing bell,	3 00
S. H. Stevens, " "	3 00
A. McDonald, " "	3 00
G. T. Burnham & Co., on account of repairs at Police Building,	1,000 00
S. D. Kelley, superintending re- pairs at Police Building,	70 00
John P. Healy, consultations and advice,	25 00
S. A. Miles, copying State Aid re- turns from State House,	45 00
J. C. Magoun, sealer of weights and measures,	100 00
C. A. Small, pound keeper,	25 00
Post 139, G. A. R., for Memorial Day,	300 00
O. Nowell, hanging bell,	4 00
J. Smith, sawing wood,	2 20
L. G. Burnham & Co., fuel,	40 80
H. Wellington & Co., fuel,	122 43
M. J. Lincoln, washing,	7 00
A. W. Nowell, poultry for Thanks- giving distribution,	173 40
Sturtevant Bros., poultry for Thanksgiving distribution,	10 59
F. G. Williams, return of births,	102 00
C. H. Lockhart, return of deaths,	18 50
H. B. Runey, return of deaths,	12 50
B. F. Wyeth, return of deaths,	1 50
Engineer's assistants, car fares,	11 65
	<hr/>
	\$7,802 90
MISCELLANEOUS (WATERING STREETS), cost to the city for watering,	\$1,011 34
EXCESS AND DEFICIENCY, balance to credit of account,	2,055 15
	<hr/>
	<u>\$10,869 39</u>

MISCELLANEOUS (WATERING STREETS).

Credit.

CASH, received of sundry persons as their proportional part of the cost of watering,	\$2,010 05
MISCELLANEOUS, for cost to the city for watering,	1,011 34
	<hr/>
	\$3,021 39

Debit..

CASH, paid Christopher Burke, watering,	\$363 65
J. McCauley, “	344 75
Jeremiah Murphy, “	361 90
J. F. Elkins, “	460 27
G. W. Prichard, “	397 40
Jeremiah McCarty, “	294 88
City of Boston, water,	500 00
J. P. Prichard, superintendence,	100 00
M. Eagan, use of watering cart in 1877,	25 00
Crowell Bros. & Co., paints, etc.,	6 78
E. E. Winslow, painting carts,	13 50
L. B. Angier, “ “	11 25
W. D. Smith, lettering carts,	6 00
J. O. Hayden, advertising,	3 30
Haskell Bros., “	4 00
J. G. Harmon, wrenches,	3 00
Ross & Turner, hose,	19 00
J. N. Deveraux, “	3 00
T. B. Wilson, “	1 00
H. W. Raymond, marline,	40
Morrill & Allen, stand post,	16 00
Seward Dodge, blacksmithing,	6 00
Water Maintenance account, pipe, etc.,	69 31
Water Services account, fittings, etc.	11 00
	<hr/>
	\$3,021 39

OVERLAY AND ABATEMENT.

Credit.

TAXES, amount added to the amount of the taxes assessed, as fractional divisions, for conven- ience in the apportionment,	\$6,373 21
EXCESS AND DEFICIENCY, balance to debit of account,	5,076 00
	<u>\$11,449 90</u>

Debit.

TAXES, for abatement on taxes,	\$11,411 12	
REAL ESTATE LIENS, abated,	38 78	
	<u> </u>	<u>\$11,449 90</u>

POLICE.

Credit.

APPROPRIATIONS, amount assessed,	\$23,100 00
CASH, received of Lebbeus Stetson, Clerk of the Court, for officers' fees, etc.,	1,730 95
EXCESS AND DEFICIENCY, balance to debit of account,	476 28
	<u>\$25,307 23</u>

Debit.

CASH, paid M. C. Parkhurst, Chief,	\$1,400 00
R. R. Perry, Captain,	1,100 00
Samuel R. Dow, Sergeant,	987 51
S. A. Brown, patrolman,	912 50
Geo. W. Bean, "	912 50
C. D. Clark, "	912 50
N. F. Caswell, "	912 50
J. G. Cunningham, patrolman,	552 50
Isaac S. Campbell, "	912 50
C. C. Cavanaugh, "	912 50
Geo. Cullis, "	229 75
Albert Fisk, "	912 50
J. E. Fuller, "	912 50
C. C. Folsom, "	950 00
<i>Amount carried forward,</i>	<u>\$12,519 76</u>

<i>Amount brought forward,</i>	\$12,519 76
John Hafford, patrolman,	907 00
M. H. Kinsley, “	912 50
Ivan Loughton, “	912 50
Howard Lowell, “	910 00
John H. McGarr, “	912 50
Edward McGarr, “	912 50
J. W. Oliver, “	917 50
S. C. Rollins, “	912 50
F. W. Slade, “	912 50
P. W. Skinner, “	907 50
A. L. Staples, “	907 50
L. H. Snow, “	244 75
S. H. Whitcomb, “	912 50
J. B. Young, “	244 75
B. F. Sheridan, “ (special),	214 00
C. B. Tabor, “ “	4 00
F. D. Snow, “ “	16 00
Peter Savage, “ “	4 00
W. H. Brine, “ “	2 00
C. H. Barker, “ “	2 00
A. L. Sanborn, board of horse,	211 05
M. C. Parkhurst, board of horse,	46 42
for postage stamps, carriage	
hire, etc.,	8 25
as lock-up keeper,	200 00
L. H. Brown, carriage hire,	49 50
H. Record, “ “	2 50
James Bartley, crackers, cheese,	
etc.,	129 07
J. J. Giles, washing, etc.,	62 52
Scoville Manuf'g Co., buttons,	13 50
H. A. Winship, saddle cloth,	6 00
Chas. Maguire, horse-shoeing,	10 50
S. Dodge, “	3 70
T. B. Wilson, harness-work,	4 45
Lewis Putnam, veterinary ser-	
vices,	24 00
C. M. Blake, newspapers,	15 00
<i>Amount carried forward,</i>	<u>\$24,974 72</u>

<i>Amount brought forward,</i>	\$24,974 72
P. J. Gannon, newspapers,	3 00
L. A. Dimond, “	1 00
W. W. Dow, medical attendance,	14 00
A. H. Carvill, “ “	5 00
J. B. Gould, “ “	3 00
S. D. Carter, meals furnished,	16 00
C. C. Folsom, car fares,	9 57
C. C. Cavanagh, car fares,	2 50
S. R. Dow, “ “	4 16
E. McGarr, “ “	3 78
Elijah Walker, carpenter work,	9 23
Geo. H. Cowdin, brushes, sponge, etc.,	10 22
J. H. Brooks, towels,	3 00
Guild & Delano, repairing badges,	1 50
Howe & Flint, dippers, etc.,	3 00
J. W. Brine, clothing,	1 50
H. D. & W. S. Durgin, ice,	30 00
Conant & Wilbur, telegraph poles,	14 40
Chas. Williams, Jr., putting up telephone,	187 00
L. W. Manning, labor on tele- phone,	4 50
L. Diebner, labor on telephone,	4 50
J. R. Hopkins, labor on telephone,	1 65
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	\$25,307 23

POLICE STATION INCIDENTALS.

Credit.

APPROPRIATIONS, amount assessed,	\$2,500 00
CASH, received of: —	
Post 139 G. A. R. for rent of Hall to Oct. 1,	\$93 75
For use of Hall,	120 00
Sundries,	7 00
	<hr/>
	220 75
	<hr/>
	\$2,720 75

Debit.

CASH, paid J. J. Giles, janitor,	\$800 00
for labor, cleaning, washing, etc.,	16 40
for substitute during vacation,	13 00
Cambridge Gas Light Co., gas,	776 62
L. G. Burnham & Co., fuel,	8 90
H. Wellington & Co., “	241 50
City of Boston, water-rates,	46 00
Sullivan & Co., plumbing,	50 82
Edward Earley, repairing roof,	9 01
Flynn Bros., cleaning carpets and repairing furniture,	33 40
M. W. Pierce & Co, repairing heating apparatus,	8 40
A. A. Sanborn, repairing heating apparatus and gas fittings,	156 05
J. Q. Twombly, painting and glaz- ing,	42 35
J. Bartley, shades, etc.,	17 10
J. F. Eldredge, rubber matting	9 80
H. W. Raymond, hardware, etc.,	15 10
Howe & Flint, “ “	8 14
Murphy, Leavens & Co., dusters,	3 50
W. C. Crane, premium of in- surance,	20 00
Seward Dodge, repairing bed- stead,	2 50
A. M. Sibley, mason work,	22 20
E. Cahill, “	9 62
D. Brooks, “	5 50
James Owen, whitewashing,	10 00
D. P. Bucknam, “	2 50
L. Arnold, carpenter work,	54 30
Z. Flemming, “	58 24
G. T. Burnham & Co., carpenter work,	24 27
	<hr/>
	\$2,465 22
EXCESS AND DEFICIENCY, balance to credit of account,	255 53

\$2,720 75

PROPERTY AND DEBT BALANCE.

Credit.

REDUCTION OF FUNDED DEBT, amount of debt paid in 1878,	\$85,000 00
BALANCE, to debit in account of 1879,	465,770 24
	<hr/>
	\$550,770 24

Debit.

BALANCE, from 1877,	\$64,926 84
APPROPRIATIONS,	75,000 00
PUBLIC PROPERTY, reduction in valuation,	410,843 40
	<hr/>
	\$550,770 24

PUBLIC LIBRARY.

Credit.

BALANCE, from 1877,	\$858 72
APPROPRIATIONS, amount assessed,	1,200 00
CASH, received of: —	
The County Treasurer, return on dog licenses for 1877,	\$1,080 85
Of the librarian for fines,	193 57
catalogues,	30 50
	<hr/>
	1,304 92
	<hr/>
	\$3,363 64

Debit.

CASH, paid Lockwood, Brooks & Co., books, etc ,	\$838 01
Estes & Lauriat, books, etc.,	380 21
A. Williams & Co., books,	55 49
Little, Brown & Co., “	48 00
W. B. Clark, “	22 00
F. Leyboldt, library journal,	5 00
C. Scribner's Sons, books,	7 50
J. A. Cummings & Co., printing,	3 50
Babb & Stephens, printing,	215 75
M. L. Whiton, binding books,	7 50
W. C. Crane, premiums of insurance,	31 25
Bishop & Bro., steps,	3 50
	<hr/>
<i>Amount carried forward,</i>	\$1,617 71

<i>Amount brought forward,</i>	\$1,617 71	
W. J. London, expressing,	27 15	
H. A. Adams, librarian,	700 00	
Lizzie Stevens, assistant librarian,	337 50	
Emily G. Coleman, assistant,	128 00	
H. F. Maynard, assistant,	25 20	
C. W. Merritt, assistant,	45 02	
L. A. Manning, assistant,	5 00	
	<hr/>	
	\$2,885 58	
BALANCE, to credit in account of 1879,	478 06	
	<hr/>	
		<u>\$3,363 64</u>

PUBLIC PROPERTY.

Credit.

PROPERTY AND DEBT BALANCE, reduction in valuation,	\$410,843 40
BALANCE, amount to debit in account of 1879,	1,121,400 00
	<hr/>
	\$1,532,243 40

Debit.

BALANCE, from 1877,	<u>\$1,532,243 40</u>
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PUBLIC PARK.

Credit.

PUBLIC PARK BETTERMENTS,	\$46,703 15
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Debit.

BALANCE, from 1877,	\$12,395 67
CASH, paid verdict of court and expenses, in suit of Arthur W. Tufts, for damages for land taken,	597 53
BALANCE, to credit in account of 1879,	33,709 95
	<hr/>
	<u>\$46,703 15</u>

PUBLIC PARK BETTERMENT ASSESSMENTS.

Credit.

BALANCE, from 1877,	\$4,100 10
CASH, received of sundry persons,	2,887 50
REAL ESTATE LIENS, titles to the city for non-payment of assessments,	698 76
BALANCE, to debit in account of 1879,	39,016 79
	<hr/>
	<u>\$46,703 15</u>

Debit.

PUBLIC PARK, assessments levied,	<u>\$46,703 15</u>
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PUBLIC PARK MAINTENANCE.

Credit.

APPROPRIATIONS, amount assessed,		\$2,000 00
CASH, received for grass,	\$45 00	
for damage to tree,	1 00	
	<hr/>	46 00
		<hr/> \$2,046 00

Debit.

CASH, paid Timothy Murphy, trees, shrubs, etc.,	\$126 75	
labor,	60 00	
M. W. Murphy, labor, etc.,	876 25	
T. Murphy, Jr., " "	212 51	
M. Connell, " "	157 50	
M. Neville, " "	24 00	
P. Gilfoil, " "	15 00	
M. Leonard, " "	13 50	
G. W. Prichard, filling material, sods, etc.,	174 15	
Parker & Gannett, lawn mower and repairing,	30 57	
G. H. Mason & Co., lamps,	7 03	
J. A. Durell, hardware,	5 65	
E. R. Perham, expressing,	2 70	
Maverick Oil Co., naphtha,	14 34	
J. A. & W. Bird & Co., alcohol,	2 25	
N. C. Barker, carpenter work,	3 62	
G. W. Manning, painting and raising flag-staff,	15 00	
J. O. Pendleton, rope,	1 30	
J. F. Kennealy, blacksmithing,	1 60	
	<hr/> \$2,043 72	
EXCESS AND DEFICIENCY, balance to credit of account,	2 28	
	<hr/>	<hr/> \$2,046 00

REAL ESTATE LIENS.

Credit.	
CASH, received of sundry persons for tax titles released,	\$1,396 63
OVERLAY ABATEMENT, abated,	38 78
HIGHWAYS (NEWTON STREET), abated,	5 43
BALANCE, to debit in account of 1879,	19,253 44
	<hr/>
	\$23,694 28
Debit.	
BALANCE, from 1877,	\$10,905 32
TAXES, titles deeded to the city for non- payment of taxes,	7,521 84
HIGHWAY BETTERMENT ASSESSMENTS, titles deeded to the city for non- payment of assessments,	1,330 15
SEWER ASSESSMENTS, titles deeded to the city for non-payment of as- sessments,	490 41
PUBLIC PARK BETTERMENT ASSESS- MENTS, titles deeded to the city for non-payment of assessments,	698 76
INTEREST, on titles deeded to the city,	1,618 07
MISCELLANEOUS. costs on titles deeded to the city,	1,129 73
	<hr/>
	\$23,694 28

REDUCTION OF FUNDED DEBT.

Credit.	
APPROPRIATIONS, amount assessed,	\$85,000 00
Debit.	
PROPERTY AND DEBT BALANCE, amount of the funded debt paid in 1878,	85,000 00
	<hr/>

SALARIES.

Credit.	
APPROPRIATIONS, amount assessed,	\$17,800 00
Debit.	
CASH, paid George A. Bruce, Mayor,	\$900 00
Chas. E. Gilman, City Clerk,	1,900 00
	<hr/>
<i>Amount carried forward,</i>	\$2,800 00

<i>Amount brought forward,</i>	\$2,800 00
Aaron Sargent, City Treasurer,	2,600 00
Treasurer of Commissioners	
of Sinking Funds,	200 00
Geo. A. Kimball, City Engineer,	2,100 00
S. C. Darling, City Solicitor,	2,000 00
E. L. White, City Physician,	700 00
Solomon Davis, Auditor, to March	
31,	62 50
Clerk of Common Council to	
April 30,	66 67
Douglas Frazar, Auditor,	187 50
Clerk of Common Council,	133 33
Geo. I. Vincent, Clerk to Asses-	
sors and Committees,	1,100 00
S. A. Miles, Assistant to City	
Treasurer,	500 00
Emma M. Blaisdell, Assistant to	
City Clerk,	500 00
Jairus Mann, City Messenger,	1,250 00
Thomas Cunningham, assessor,	600 00
F. G. Williams, assessor,	600 00
G. W. Hadley, assessor,	600 00
Geo. Smith, assistant assessor,	200 00
B. F. Thompson, assistant asses-	
sor,	200 00
R. A. Melvin, assistant assessor,	200 00
S. H. Holland, “	200 00
Engineer's assistants,	999 36
	<hr/>
	\$17,799 36

EXCESS AND DEFICIENCY, balance to
credit in account,

64

\$17,800 00

SCHOOL CONTINGENT.

Credit.		
APPROPRIATIONS, amount assessed,		\$10,000 00
CASH, received : —		
Of sundry persons, for school-books furnished by the School Committee,	\$46 44	
Of the Superintendent of Schools, amount received by him, for tuition of non-resident pupils,	116 00	
Of the Committee, amount received by them, and from sundry persons, for use of rooms in schoolhouses,	68 50	
Return on bill paid,	5 00	
		<hr/>
		235 94
		<hr/>
		\$10,235 94

Debit.		
CASH, paid Joshua H. Davis, salary as Superintendent of Schools,	\$2,000 00	
for postage stamps,	5 00	
E. A. Smith, salary as truant officer,	800 00	
Janitors,	3,367 72	
Charlestown Gas Company, gas,	105 07	
Cambridge Gas Light Company, gas,	290 00	
Geo. B. King, books and printing,	1,238 38	
J. L. Hammett, stationery,	444 72	
Thos. Groom & Co., stationery,	59 95	
J. L. Fairbanks & Co., stationery,	7 25	
J. W. C. Gilman & Co., writing-books, etc.,	497 08	
A. A. Perry, books,	102 44	
W. C. Clark, books,	182 26	
Lee & Shepard, books,	55 20	
A. C. Stockin, books,	78 36	
R. S. Davis & Co., books,	16 20	
F. E. Stanley, books,	48 84	
Lockwood, Brooks & Co., books,	24 00	
Knight, Adams & Co., stationery,	9 36	
		<hr/>
Amount carried forward,	\$9,331 83	

<i>Amount brought forward,</i>	\$9,331 83
Geo. R. Bradford, stationery,	7 31
S. W. Sanford, erasers,	3 00
James Cooper, printing,	3 00
G. A. Southworth, stationery,	7 50
N. S. Dearborn, diplomas,	77 00
R. Torrey, lettering diplomas,	25 00
J. W. Black & Co., apparatus,	10 00
S. H. O. Hadley, tuning pianos,	6 00
H. A. Woodman, tuning pianos,	2 00
E. S. Daniels, tuning pianos,	8 00
J. O. Hayden & Co., advertising,	2 40
J. P. Williams, dust-pans etc.,	12 50
H. W. Raymond, rake,	75
O. F. Howe, brooms,	4 00
C. Holmes & Son, coal-hods and hardware,	22 53
C. H. Cook, stove-pipe, etc.,	5 15
J. A. Swasey, blackboard,	11 00
Murphy, Leavens & Co., brushes,	135 99
Snow & Chase, brushes,	4 40
Stilphen & Co., expressing,	24 25
Barker & Tibbetts, “	18 00
G. W. Manning, “	5 85
London's Express, “	4 25
E. R. Perham, “	25
Thorpe's Express, “	4 50
G. W. Bartlett, repairing clock,	5 75
E. S. Bailey, “ “	4 50
Rand & Byam, soap,	6 25
Thomas Hollis, “	1 60
J. C. Davidson, “	2 18
J. F. Cole & Co., buckets,	1 20
H. K. Bowers, chart,	3 50
City of Boston, water-rates,	353 29
City of Cambridge, water rates,	19 00
Weeks & Potter, chemicals,	19 83
Henry Shaw, posting notices,	2 00
D. H. Rinn, cleaning,	4 95
<i>Amount carried forward,</i>	<hr/> \$10,160 51

<i>Amount brought forward,</i>	\$10,160 51	
J. M. Coburn, cleaning,	7 73	
for rent and fuel,	50 93	
Daniel Swan, use of hall,	2 00	
S. L. Pratt. carriage hire,	10 00	
S. J. Wood, repairing lock,	1 00	
	<hr/>	
	\$10,232 17	
EXCESS AND DEFICIENCY, balance to		
credit of account,	3 77	
	<hr/>	
		\$10,235 94
		<hr/>

SCHOOL FUEL.

	Credit.	
APPROPRIATIONS, amount assessed,		\$3,000 00
	Debit.	
CASH, paid L. G. Burnham & Co.,		
fuel,	\$254 25	
H. Wellington & Co , fuel,	2,219 50	
Support of Poor account, wood,	168 58	
A. Q. Carpenter, weighing coal,	34 00	
	<hr/>	
	\$2,676 33	
EXCESS AND DEFICIENCY, balance to		
credit of account,	323 67	
	<hr/>	
		\$3,000 00
		<hr/>

SCHOOLHOUSE REPAIRS.

	Credit.	
APPROPRIATIONS, amount assessed,		\$5,000 00
CASH, received of the Committee on		
Public Property, amount re-		
ceived for use of halls,	\$175 00	
Return premiums on policies can-		
celled,	149 48	
Use of Walnut Hill land,	4 00	
Sundries,	2 50	
Return on bill paid,	1 42	
	<hr/>	
		332 40
EXCES: AND DEFICIENCY, balance to		
debit in account,		82 45
		<hr/>
		\$5,414 85

Debit.

CASH, paid Leonard Arnold, carpenter work,	\$58 85
L. H. Snow, carpenter work,	51 50
Elijah Walker, " "	136 71
Albert Caswell, " "	29 12
Wm. A. Muzzey, carpenter work,	161 84
J. D. Hills, " "	207 81
George W. Trefren, " "	142 12
G. T. Willoughby, " "	39 87
R. A. Melvin & Co., " "	161 63
N. C. Barker, " "	200 56
John Flanagan, " "	21 50
Z. Flemming, " "	134 73
Stevens & Scofield, " "	26 82
G. T. Burnham & Co., " "	4 25
A. M. Sibley, mason work,	22 50
E. Cahill, " "	4 75
James Owen, " "	5 00
Daniel Brooks, " "	422 21
Rufus Winn, " "	95 15
S. W. Sanford, whitewashing and blackboards,	24 66
C. Fertig, whitening,	13 50
P. O'Hare, plastering,	13 00
E. D. Sawyer & Co., lumber,	8 54
C. H. Tufts, painting and glazing,	22 00
H. C. Roberts, " "	3 25
Ramsey Clarke, " "	8 07
J. T. Crosby, " "	23 35
D. W. McDermott, painting and glazing,	36 00
J. C. Dyer & Co., painting and glazing,	43 98
J. Q. Twombly, painting and glazing,	19 17
W. H. Denton, painting and glazing,	5 00
O. Nowell, adjusting bells,	2 50
<i>Amount carried forward,</i>	<u>\$2,149 94</u>

<i>Amount brought forward,</i>	\$2,149 94
F. A. Titus, gas fixtures,	16 00
G. M. D. Fernald, repairing gongs,	3 00
Edward Earley, slating,	24 85
David Young, “	21 54
W. H. Thomas, paper hangings,	17 44
D. A. Sanborn, constructing cess- pools,	25 25
Flynn Bros., window shades,	6 00
C. L. Lacount, window screens,	2 00
S. Roebuck & Co., weather strips,	12 78
M. W. Pierce & Co., labor on heating apparatus,	2 80
A. A. Sanborn, repairing heating apparatus,	333 35
Howe & Flint, furnace, ventilators, repairing heating apparatus, etc ,	509 94
Chas. Holmes & Son, stove work,	17 70
J. A. Merrifield, stove work, etc.,	234 87
J. E. Parsons, “ “	1 10
T. E. Spencer, “ “	53 29
J. A. Durell, sink, etc.,	27 02
H. W. Raymond, hardware,	14 45
W. L. Snow, “	22 28
S. J. Wood, repairing locks,	1 50
Z. S. Mayo, keys,	1 35
A. G. Whitcomb, desks, etc.,	400 49
F. L. Temple, trees,	51 00
Clark Bennett, premium of insur- ance,	73 32
W. C. Crane, premiums of insur- ance,	60 00
J. Breck & Sons, shovel,	1 75
R. Holman, chair,	3 25
George Bemis, tuning piano,	2 50
Russell & Fitch, removing night soil,	185 00
J. L. Hammatt, blackboards,	16 50
<i>Amount carried forward,</i>	<hr/> \$4,292 26

<i>Amount brought forward,</i>	\$4,292 26	
J. A. Swasey, blackboards,	154 48	
B. W. Wentworth, labor on black- boards,	14 25	
E. S. Bailey, repairing clocks,	22 00	
Robert Renwick, “	10 50	
E. H. Brabrook, ice chest, etc.	20 75	
O. C. Hanson, expressing,	5 00	
S. B. Manning, cleaning clock,	2 00	
Rand & Byam, soap,	3 00	
C. W. Learned & Co., disinfectant,	24 29	
J. Leland, repairing wheelbarrow,	2 50	
Sewer Assessment account, assess- ment on sewer,	29 64	
Highways account, gravel,	16 90	
Water Service account, water pipes,	72 73	
Walworth Manuf'g Co., filters,	24 00	
Barker & Tibbetts, expressing,	7 05	
Joseph Young, care of lawn,	30 00	
R. Thompson, care of Forster Hall,	7 00	
J. C. Davidson, care of Morse Hall, etc.,	6 00	
J. M. Coburn, care of Prescott Hall, etc.	5 60	
West Boston Savings Bank, rent,	200 00	
Estate of Chas. Tufts, rent,	200 00	
Daniel Swan, rent,	250 00	
Winsor Snow, cleaning,	5 00	
Mrs. Harkness, “	9 90	
		\$5,414 85

SCHOOL TEACHERS' SALARIES.

Credit.

APPROPRIATIONS, amount assessed,	\$63,500 00
EXCESS AND DEFICIENCY, balance to debit of account,	3,200 97
	<u>\$66,700 97</u>

Debit.

CASH, paid salaries. (A detailed statement of the sums paid the several teachers during the year would not give the compensation as at pres-

ent established, the salaries having been reduced on the first of September last to \$2,300.00 for High School Principal; \$1,500.00 for High School First Assistant; \$900.00 and \$1,100.00 for other High School Assistants; \$1,500.00 and \$1,900.00 for Grammar School Principals; \$300.00 to \$650.00 for Grammar School Assistants and Primary School Teachers, and \$1,050.00 for Music Teacher.) Total amount paid,

\$66,700 97

SEWERS.

Credit.

APPROPRIATIONS, amount assessed,		\$7,000 00
CASH, received of Central Hill Improvement account, labor, etc.,	\$14 02	
A. M. Leonard, permission to enter sewer,	20 00	
P. E. Dolliver, part cost of constructing drain,	18 94	
M. W. Haskins, part cost of constructing drain,	18 94	
Samuel N. Bunting, part cost of constructing drain,	18 94	
	<hr/>	90 84
SEWER ASSESSMENTS, assessments levied,		4,764 18
		<hr/>
		\$11,855 02

Debit.

CASH, paid laborers,	\$2,514 43
Fiske & Coleman, pipe,	975 42
Portland Stone Ware Co., pipe,	117 50
Foundry Supply Co., “	115 22
D. W. Lewis, “	306 50
Chas. Davis, catch-basin stone,	62 00
A. Parker, “ “	218 00
Osgood & Hart, cesspool covers,	245 51
J. Leland, “ “	12 90
Howe & Flint, cover to sewer, etc.,	8 08
Cook, Rymes & Co., castings,	8 16
<i>Amount carried forward,</i>	<hr/>
	\$4,583 72

<i>Amount brought forward,</i>	\$4,583 72
Walworth Manuf. Co., traps,	49 95
H. W. Clapp, “	12 00
M. Day & Co., cement,	200 59
H. Wellington & Co., cement,	4 20
Fire Department account for hose,	60 00
Hunneman & Co., hose,	24 75
C. Holmes & Son, “	9 00
John Thresher, brick,	77 00
Richard Falvey, “	4 02
G. W. Wyatt, “	176 50
G. W. Wyatt & Son, brick,	78 50
Leonard Arnold, tripod, etc.,	3 50
S. W. Fuller, lumber,	11 50
W. H. Thompson, box,	1 00
J. Bartley, oil, etc.,	2 09
E. A. Warren, mortar bed,	5 50
O. A. Hall, repairing drain,	40 00
B. F. Whittemore, repairing drain,	18 40
J. McCarty, stone,	1 50
J. M. Whittemore & Co., stationery,	9 50
Seward Dodge, blacksmithing,	43 75
C. A. Mongan, labor on sewer,	70 40
Stevens Bros., lampwicks,	35
R. Burlen, binding plans,	7 00
Babb & Stephens, printing,	7 50
D. W. Crocker, repairing truck,	2 00
H. W. Raymond, canvas, etc.,	5 40
Wm Odiorne, damage by over- flow of water,	42 56
Philip Eberle, boots,	10 00
J. O. Hayden & Co., advertising,	91 50
Haskell Bros., “	5 00
Highway account, teaming,	83 15
G. W. Prichard, teaming,	9 75
City Engineer's Assistants, super- intending construction of sewers,	364 30
Maurice Buttimer, constructing sewer in Summit Avenue,	250 50
<i>Amount carried forward,</i>	<u>\$6,366 28</u>

<i>Amount brought forward,</i>	\$6,366 28	
Richard Falvey, constructing sewer in Vine Street,	1,951 71	
in Winter Street,	176 10	
E. Fitzgerald, constructing sewer in Craigie Street,	536 14	
in Water Street,	81 80	
C. A. Mongan, constructing sewer in Central Street,	368 08	
in Everett Street,	132 12	
in Mt. Vernon Street,	382 80	
in Thorpe Place,	255 00	
in Webster Street,	472 15	
Patrick Terry, constructing sewer in Dane Street,	950 70	
P. & M. Terry, constructing sewer in Bow Street Place,	112 67	
	<hr/>	
	\$11,785 65	
SEWER ASSESSMENTS, assessments abated,	67 76	
EXCESS AND DEFICIENCY, balance to credit of account,	1 61	
	<hr/>	
		\$11,855 02

SEWERS (BEACON AND ELM STREETS SEWER).

	Credit.	
BALANCE, from 1877,		\$7,924 16
CASH, received of Fitchburg Railroad Co., for permission to enter sewer,		100 00
		<hr/>
		\$8,024 16
	Debit.	
CASH, paid A. Hodges, examination of sewer, etc.,	\$357 91	
Chas. D. Elliot, services as Engi- neer,	425 17	
City Engineer's Assistants, labor on plan, attending hearing be- fore Auditor, etc.,	157 95	
Doe & Hunnewell, labor,	13 80	
Laborers,	18 00	
	<hr/>	
	\$972 83	
BALANCE, to credit in account of 1879,	7,051 33	
	<hr/>	
		\$8,024 16

SEWER ASSESSMENTS.

Credit.

SEWERS, assessments abated,	\$67 76
REAL ESTATE LIENS, title to the city for non-payment of assessments,	490 41
CASH, received of sundry persons, as- sessments,	10,880 97
BALANCE, to debit in account of 1879,	4,547 27
	<hr/>
	\$15,986 41

Debit.

BALANCE, from 1877,	\$11,222 23
SEWERS, assessments levied,	4,764 18
	<hr/>
	\$15,986 41

SIDEWALKS.

Credit.

APPROPRIATIONS, amount assessed,	\$5,000 00
CASH, received of J. P. Prichard, amount received by him for edge- stones,	13 90
SIDEWALK ASSESSMENTS, assessments levied,	2,456 53
	<hr/>
	\$7,470 43

Debit.

CASH, paid laborers,	\$603 96
John Turner & Co., edgestones, etc.,	2,885 64
O. S. Foster, brick,	1,396 00
C. L. Heywood, gravel,	244 00
S. W. Fuller, lumber,	42 35
Mark Loughton, “	1 75
Davis, Stebbins & Co., trowels,	4 20
H. W. Raymond, tools,	2 72
J. O. Hayden & Co., advertising,	42 30
	<hr/>
	\$5,222 92
EXCESS AND DEFICIENCY, balance to credit of account,	2,247 51
	<hr/>
	\$7,470 43

SIDEWALK ASSESSMENTS.

Credit.

CASH, received of sundry persons, assessments,	\$557 75
BALANCE, to debit in account of 1879,	2,288 97
	<u>\$2,846 72</u>

Debit.

BALANCE, from 1877,	\$390 19
SIDEWALKS, assessments levied,	2,456 53
	<u>\$2,846 72</u>

SINKING FUND CONTRIBUTIONS.

Credit.

APPROPRIATIONS, amount assessed,	\$45.880 62
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Debit.

CASH, paid Commissioners of the Sinking Funds,	<u>\$45,880 62</u>
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SOLDIERS' RELIEF.

Credit.

APPROPRIATIONS, amount assessed,	\$800 00
EXCESS AND DEFICIENCY, balance to debit of account,	95 57
	<u>\$895 57</u>

Debit.

CASH, paid Sturtevant Bros., groceries, etc.,	\$352 00
P. T. O'Brien, groceries, etc.,	32 00
L. G. Burnham & Co., fuel,	110 51
H. Wellington & Co., fuel,	57 81
Philip Eberle, boots and shoes,	26 25
Sundry persons, aid,	317 00
	<u>\$895 57</u>

SOMERVILLE WATER WORKS.

Credit.

BALANCE, from 1877,	\$1,037 75
CASH, received of Amos Haynes, pipe, etc.,	\$57 15
Moses G. Steele, pipe, etc.,	5 00
Town of Everett, pipe, etc.,	417 25
<i>Amounts carried forward,</i>	<u>\$479 40</u>
	<u>\$1,037 75</u>

<i>Amounts brought forward,</i>	\$479 40	\$1,037 75
Nath'l Dennett, amount received for horse,	10 00	
McLean Asylum, repairing pipe,	10 40	
Union Railway Co., “	9 00	
Heirs John McKenna, “	3 00	
Woburn Water Works, materials furnished,	3 25	
John Flynn, materials furnished,	1 50	
		516 55
		<u>\$1,554 30</u>
Debit.		
CASH, paid laborers,	\$464 63	
F. B. Austin & Co., iron,	165 46	
Morris, Tasker & Co., pipe,	88 36	
Pattee & Perkins, hydrants,	90 00	
Osgood & Hart, castings,	65 28	
Bagnall & Loud, logs,	60 00	
S. May & Co., shears, etc.,	12 47	
Boston Machine Co., screw,	2 50	
Sewell, Day & Co., rope,	4 00	
City Engineer's assistants, labor on plan,	70 10	
J. C. Warren & Co., teaming,	7 88	
	<u>\$1,030 68</u>	
BALANCE, to credit in account of 1879,	523 62	
		<u><u>\$1,554 30</u></u>
STATE AID.		
Credit.		
STATE OF MASSACHUSETTS — STATE AID, amount paid in 1878, charged to the State,		\$4,308. 50
Debit.		
CASH, paid monthly pay rolls for aid,		<u><u>\$4,308 50</u></u>
STATE OF MASSACHUSETTS.—STATE AID.		
Credit,		
CASH, received of the State Treasurer, amount paid in 1877,		\$4 223 50
BALANCE, Dec. 31, 1878, due from the State, Dec. 1, 1879, to debit in account of 1879,		4,308 50
		<u><u>\$8,532 00</u></u>

Debit.

BALANCE, from 1877,	\$4,223 50	
STATE AID, amount paid in 1878 as per account,	4,308 50	
	<hr/>	\$8,532 00

STATE OF MASSACHUSETTS.

Credit.

TAXES, amount assessed for State Tax,	\$15,440 00
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Debit.

CASH, paid State tax,	\$15,440 00
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STREET LIGHTS.

Credit.

APPROPRIATIONS, amount assessed,	\$7,000 00
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CASH, received of Committee on Street
Lights, amount received by them
for twelve lamp-posts,

217 75

\$7,217 75

Debit.

CASH, paid Cambridge Gas Light Com- pany, gas,	\$2,053 60
labor on pipes, etc.,	74 03
Charlestown Gas Company, gas,	1,628 65
labor on pipes, etc.,	66 90
Hugh Blackwell, lighting,	1,991 55
labor on pipes, posts, etc.,	144 85
Globe Gas Light Company, light- ing,	467 00
for lamp posts, lanterns, etc.,	191 02
W. H. Blackwell, repairing lamps,	58 42
Nath'l Tufts, lamps, etc ,	39 75
H. M. Bird, lamp-posts,	25 00
A. M. Morton & Co., lamp-post cocks,	68 40
Walworth Manuf. Co., lamp-posts,	9 00
Hills, Turner & Co., glass,	22 86
D F. Flagg & Co., alcohol,	28 80
J. P. Williams, oils,	65
<i>Amount carried forward,</i>	<hr/> \$6,870 48

<i>Amount brought forward,</i>	\$6,870 48	
C. E. Folsom & Co., asphaltum,	3 37	
Howe & Flint, repairing pipe,	1 00	
Seward Dodge, iron work,	3 00	
Bishop & Bro., ladders,	4 90	
J. O. Hayden & Co., printing,	12 00	
	<hr/>	
	\$6,894 75	
EXCESS AND DEFICIENCY, balance to credit of account,	323 00	
	<hr/>	
		<u>\$7,217 75</u>

SUPPORT OF POOR.

Credit.

APPROPRIATIONS, amounts assessed, \$12,900 00

CASH, received for support of paupers : —

Of State Treasurer,	\$1,469 71
Of city of Boston,	989 17
“ Cambridge,	770 94
“ Chelsea,	42 00
“ Lawrence,	158 24
“ Lowell,	54 28
“ New Bedford,	44 81
“ Springfield,	125 84
“ Worcester,	20 47
Town of Abington,	194 57
“ Canton,	37 24
“ Dedham,	25 79
“ Dracut,	36 97
“ Medford,	25 90
“ Melrose,	115 77
“ Milford,	22 38
“ Milton,	36 70
“ Marblehead,	56 04
“ Natick,	77 03
“ Nantucket,	48 63
“ Oakham,	69 32
“ Sandwich,	19 35
“ Woburn,	170 05
Fire Department account, for wood,	24 40

<i>Amounts carried forward,</i>	\$4,635 60	<u>\$12,900 00</u>
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<i>Amounts brought forward,</i>	\$4,365 60	\$12,900 00
School Fuel account, for wood,	168 58	
Miscellaneous account, for wood,	17 90	
Ansel Lewis, for old barrels,	12 08	
Support of Soldiers and Sailors account for aid rendered,	108 00	
	<hr/>	4,942 16
		<hr/> \$17,842 16

Debit.

CASH, paid Conants & Sanborn, for groceries,	\$962 91
Belknap & Boynton, provisions, etc.,	1,722 14
T. N. Snow & Co., potatoes,	355 55
T. A. Shedd, crackers,	307 55
Hathaway & Woods, flour,	457 50
J. W. Roberts & Co., beans,	32 65
Sturtevant Bros., beef,	318 14
Cornish & Hall, beans,	9 97
P. Curtis, fish,	257 00
F. Snow & Co., fish,	9 00
Chas. O'Neil, soap,	127 20
Rand & Byam, soap,	18 75
B. F. Tyler, meal,	16 86
Hewey, Skillins & Co., meal,	13 28
L. G. Burnham & Co., fuel,	2,182 09
H. Wellington & Co., "	867 00
J. F. Brine, "	6 70
J. H. Brine, "	1 50
J. A. Porter & Co., "	13 79
John F. Ayer, wood,	444 51
P. Shannon, milk,	10 19
H. McAvoy, milk,	1 20
Geo. W. Ryan, milk,	2 48
Ann Scott, "	74
J. Molloy, "	10 75
Maurice Terry, "	6 38
James Doherty, "	6 37
M. R. Hobart, "	11 20
<i>Amount carried forward,</i>	<hr/> \$8,173 40

<i>Amount brought forward,</i>	\$8,173 40
Dyer Bros., boots and shoes,	11 00
Philip Eberle, boots and shoes,	1,287 10
J. M. Adams, boots and shoes,	2 75
J. H. Brooks, dry goods,	95 30
F. J. Spear & Co., dry goods,	16 25
Wm. Schuebeler, dry goods,	1 10
J. W. Brine, " "	5 20
J. J. Giles, meals furnished, etc.,	29 08
H. Daley, meals furnished,	4 50
A. H. Allen, bedstead,	3 00
J. H. Hanley, moving furniture,	2 00
Henry McAvoy, moving furniture,	2 00
J. E. Parsons, tin ware,	2 45
H. W. Raymond, saws, baskets, etc.,	35 77
C. Holmes & Son, stove, etc.,	7 25
John McKenna, teaming wood,	138 40
John Monaghan, teaming wood,	45 60
J. C. Davidson, overseeing tramps and delivering wood,	266 41
Leonard Arnold, filing saws, etc.,	2 00
S. J. Wood, filing saws, etc.,	2 50
Little, Brown & Co., General Statutes and supplement,	8 50
C. H. Crane, sponge,	65
City of Boston, water-rates,	6 00
Patrick Rafferty, undertaker's services,	366 25
H. B. Runey, undertaker's services,	204 50
M. G. Steele, expressing,	16 00
Thorpe's Express, expressing,	13 10
London's Express, expressing,	3 80
Babb & Stephens, printing,	65 75
A. L. Haskell & Co., "	16 00
M. R. Warren, stationery,	10 63
Geo B. King, "	1 75
Fitch & Robinson, building shed,	20 00
A. L. Sanborn, carriage hire,	3 00
S. L. Pratt, "	2 00
<i>Amount carried forward,</i>	<u>\$10,870 99</u>

<i>Amount brought forward,</i>	\$10,870 99
H. A. Pratt, carriage hire,	1 50
E. L. White, truss,	4 00
Horace Chapin, medical attendance,	20 00
J. B. Gould, medical attendance,	10 00
A. H. Carvill, " "	5 00
Ansel Lewis, Overseer of the Poor,	300 00
as store-keeper,	300 00
care and transportation of paupers,	18 95
Nelson Howe, Overseer of the Poor,	300 00
Horace Chapin, Overseer of the Poor,	300 00
as secretary of the Board,	200 02
Carpenter Bros. orders,	10 25
Sturtevant Bros. "	12 11
C. A. Small, "	9 50
S. L. Fillebrown, "	13 78
J. F. Cole & Co., "	20 28
W. A. Pierce, "	6 56
Simon White, "	2 25
Stevens & Bro. "	1 55
L. W. White, "	6 00
Parker & Reed, "	2 00
P. T. O'Brien, "	1 25
M. Finnegan, rent,	96 00
Marg't McCarty, rent,	72 50
J. Newhall, "	66 00
B. Hagan, "	72 00
A. J. Taylor, "	20 60
Cath'e Plant, "	38 00
Mary McLaughlin, rent,	48 00
P. A. Cunningham, "	24 00
Maurice Terry, "	24 00
Henry McAvoy, "	18 07
Holbrook & Fox, "	24 00
J. H. Murphy, "	12 00
<i>Amount carried forward,</i>	<hr/> \$12,931 16

<i>Amount brought forward,</i>	\$12,931 16
Sally Bailey, rent,	24 00
John McHugh, “	10 00
Hugh Gallagher, “	20 00
Mary Nolan, “	15 00
Marg’t Cross, “	6 00
M. Conlan, “	25 00
Patrick Kennedy, “	35 00
M. J. McCarron, “	8 00
T. J. Cox, “	30 00
E. F. Grant, “	20 00
P. Shea, “	20 00
Patrick Clark, “	19 00
Geo. O. Linton, “	15 00
Jarius Mann, “	15 00
Peter Scott, “	11 25
Andrew Abbott, “	30 00
City of Boston, support of paupers,	770 97
“ Cambridge, “ “	138 16
“ Taunton, “ “	116 49
“ Newton, “ “	85 35
“ Lynn. “ “	62 50
“ Lawrence, “ “	38 00
Town of Holliston, “ “	156 00
“ Canton, “ “	105 74
“ Hudson, “ “	48 00
Boston City Hospital, support of paupers,	12 86
Massachusetts General Hospital, support of paupers,	88 00
State of Massachusetts, support of paupers,	384 75
State Hospital, Insane, support of paupers,	135 76
Northampton Hospital, Insane, support of paupers,	42 50
Worcester Lunatic Hospital, sup- port of paupers,	1,168 13
Taunton Lunatic Hospital, support of paupers,	185 14
<i>Amount carried forward,</i>	<u>\$16,772 76</u>

<i>Amount brought forward,</i>	\$16,772 76	
Vermont Asylum, support of paupers,	192 30	
Old Camb. Baptist Church, board of paupers,	156 00	
L. M. Hatch, board of paupers,	36 00	
James Connolly, " "	6 00	
L. M. Dalton, " "	75 70	
J. H. Hollis, " "	108 00	
John McCarty, " "	66 86	
W. L. Oliver, " "	36 00	
Mary Sullivan, board of pauper,	17 86	
Simon Stackpole, " "	17 50	
Lizzie Knowles, " "	10 50	
	<hr/>	
	\$17,495 48	
EXCESS AND DEFICIENCY, balance to credit of account,	346 68	
	<hr/>	
		<u>\$17,842 16</u>

SUPPORT OF SOLDIERS AND SAILORS.

Credit.

CASH, received back sums paid parties not entitled,	\$24 00	
STATE OF MASSACHUSETTS, SUPPORT OF SOLDIERS AND SAILORS, amount paid in 1878, charged to the State,	2,440 00	
	<hr/>	
		\$2,464 00

Debit.

CASH, paid sundry persons,	<u>\$2,464 00</u>
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STATE OF MASSACHUSETTS, — SUPPORT OF SOLDIERS AND SAILORS.

Credit.

BALANCE, to debit in account of 1879,	\$2,440 00
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Debit.

SUPPORT OF SOLDIERS AND SAILORS, amount paid in 1878, amount paid as per account,	<u>\$2,440 00</u>
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TAXES.

	Credit.	
CASH, received taxes for 1875,	\$300 08	
1876,	48,838 25	
1877,	109,606 24	
1878,	278,763 30	
	<hr/>	\$437,507 87
REAL ESTATE LIENS, titles to the city for non-payment of taxes of 1876,		\$7,521 84
OVERLAY AND ABATEMENT, abatement on taxes for 1873,	\$384 00	
1874,	330 00	
1875,	472 08	
1876,	3,708 39	
1877,	2,283 31	
1878,	4,000 60	
	<hr/>	\$11,178 38
Returned,	232 74	
	<hr/>	11,411 12
BALANCE, to debit in account of 1879, being uncollected taxes for 1875,	\$269 30	
1876,	194 56	
1877,	53,776 57	
1878,	126,733 20	
	<hr/>	180,973 63
		<hr/>
		\$637,414 46
	Debit.	
BALANCE, from 1877,	\$227,684 62	
CASH, paid First Baptist Society, amount recovered in suit,	232 74	
APPROPRIATIONS, amount assessed for current expenses,	376,530 62	
STATE OF MASSACHUSETTS, amount as- sessed for State tax,	15,440 00	
COUNTY OF MIDDLESEX, amount as- sessed for county tax,	11,153 27	
OVERLAY AND ABATEMENT, amount added by the assessors,	6,373 21	
	<hr/>	\$637,414 46
		<hr/>

TEMPORARY LOANS.

Credit.

BALANCE, from 1877,		\$270,000 00
CASH, borrowed by authority of the city council, on city notes, and of the following named : —		
June 29. — Stone & Downer,	\$210,000 00	
June 29. — A. Sargent, trustee,	20,000 00	
June 29. — A Sargent and E. E. Adams, trustees,	15,000 00	
June 29. — Chas. Wilson,	5,000 00	
Sept. 28. — Boston Safe Deposit and Trust Co.,	80,000 00	
Dec. 30. — Blake Bros. & Co., pay- able April 30, 1879,	170,000 00	
Dec. 30. — A. Sargent, trustee, payable April 30, 1879,	20,000 00	
Dec. 30. — A. Sargent and E. E. Adams, trustees, payable April 30, 1879,	15,000 00	
	<hr/>	535,000 00
		<hr/>
		\$805,000 00

Debit.

CASH, paid the following named : —	
June 29. — A. Sargent, trustee, note dated Dec. 29, 1877,	\$20,000 00
June 29. — A. Sargent and E. E. Adams, trustees, note dated Dec. 29, 1877,	10,000 00
June 29. — Chas. Wilson, note dated Dec. 29, 1877,	5,000 00
July 2. — New England Trust Co., note favor Boston Five Cents Savings Bank dated Dec. 29, 1877,	235,000 00
Nov. 9. — Boston Safe Deposit and Trust Co., note dated Sept. 28,	80,000 00
Dec. 28. — Amount borrowed of Stone & Downer, June 29,	210,000 00
<i>Amount carried forward,</i>	<hr/>
	\$560,000 00

<i>Amount brought forward,</i>	\$560,000 00	
Dec. 30. — A. Sargent, trustee, note dated June 29,	20,000 00	
Dec. 30. — A. Sargent and E. E. Adams, trustees, note dated June 29,	15,000 00	
Dec. 28. — Chas. Wilson, note dated June 29.	5,000 00	
	<hr/>	
	\$600,000 00	
BALANCE, to credit in account of 1879,	205,000 00	
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		\$805,000 00
		<hr/>

WATER MAINTENANCE.

Credit.

APPROPRIATIONS, amount assessed,		\$13,750 00
CASH, received of city of Boston, re- turn on water rates : —		
1877. 30 per cent on \$1,995.22,	\$598 57	
1878. 15 per cent on \$20,000,	3,000 00	
20 per cent on \$10,000,	2,000 00	
25 per cent on \$10,000,	2,500 00	
30 per cent on \$10,000,	3,000 00	
40 per cent on \$1,215.81,	486 32	
	<hr/>	
	\$11,584 89	
John P. Squire, for pipe and repairing hydrant,	1,725 35	
West Boston Savings Bank, dam- age to pipe,	3 00	
John Peabody, for manure,	6 00	
Fire Department account, labor on hydrants,	241 52	
Miscellaneous (Watering Streets) account, for pipe and repairing stand pipes,	69 31	
	<hr/>	
		13,630 07
WATER SERVICES, balance transferred,		113 19
		<hr/>
		\$27,493 26

Debit.

CASH, paid interest coupons of Water
Loan Bonds, Nos. 6 to 13, 16 to
35,

\$235,000 at 6½ per cent,	\$15,275 00
\$20,000 at 6 per cent,	1,200 00
\$70,000 at 5½ per cent,	3,850 00
\$10,000 at 5 per cent,	500 00

20,825 00

Paid laborers,	2,382 58
S. May & Co., iron, etc.,	668 23

Chas. Holmes & Son, hardware, labor, etc.,	34 42
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H. Wellington & Co., cement, etc.,	198 43
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Boston Machine Co., gates, etc.,	124 90
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Chadwick Lead Works, solder, tin, etc.,	12 27
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Levi Hawkes & Co., fittings,	3 00
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Seward Dodge, blacksmithing,	146 81
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C. Maguire, horse-shoeing,	28 50
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H. W. Raymond, hardware, etc.,	27 19
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Morris, Tasker & Co., fittings,	6 30
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Davis & Farnum, Manuf. Co. castings,	14 25
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Osgood & Hart, castings,	6 33
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Pattee & Perkins, hydrants,	120 00
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Foster, Colburn & Co., duck, etc.,	12 50
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J. H. Brooks; duck,	9 83
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Williams, Page & Co., cotton waste,	1 00
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G. H. Mason & Co., lantern,	2 25
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Sewell, Day & Co., rope,	7 40
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A. Seaman & Co., grindstone,	10 00
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J. C. Storey & Co., oil and tar,	14 04
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Francis Sargent & Co., in ex- change of wagons,	50 00
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W. A. Ward & Co., in exchange of wagons,	100 00
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Hudson & Gage, painting wagon,	25 00
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J. B. & R. M. Lilley, repairing wagon umbrella,	1 00
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<i>Amount carried forward,</i>	<i>\$24,831 23</i>
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<i>Amount brought forward,</i>	\$24,831 23
Franck Shute & Co., forge, files, etc.,	53 30
John Cleary, lumber,	51 98
Holt & Bugbee, lumber,	1 64
E. D. Sawyer & Co., lumber,	29 38
Boston Belting Co., rings, etc.,	6 18
G. H. Cowdin, acids, etc.,	3 15
J. Leland, wheelwright work,	33 20
H. W. Learned, repairing wagon,	4 40
J. A. Porter & Co., coal,	2 95
J. Peck & Sons, salt,	3 75
Very & Co., horse-shoeing,	2 50
Union Glass Co., lantern,	2 42
J. Breck & Sons, spoons,	1 25
Eaton & Dana, files,	2 87
L. H. Brown, use of horse and wagon,	35 00
M. Pepper, sand,	22 50
Mrs. James Hanley, damage from water,	15 00
London's Express, expressing,	2 50
Thorpe's Express, expressing,	3 03
Mt. Hope Iron Co., nails,	4 60
J. F. Cole & Co., oil,	25
S. J. Wood, filing saw,	25
L. G. Burnham & Co., straw and cement,	4 16
J. H. Brine, hay, straw, etc.,	21 74
J. O. Hayden & Co., advertising and printing,	25 75
Alfred Hale & Co., boots,	8 00
Philip Eberle, boots,	8 05
A. H. Dennett, paper hangings,	3 00
Hosmer, Crampton & Hammond, hay,	74 77
Haskell Bros., advertising,	6 45
Hooper, Lewis & Co., stationery,	6 40
City of Boston, water-rates,	20 00
<i>Amount carried forward,</i>	<u>\$25,291 65</u>

<i>Amount brought forward,</i>	\$25,291 65	
Nath'l Dennett, salary as superintendent,	1,200 00	
E. S. Conant, salary as clerk of Water Board,	200 00	
postal cards,	1 20	
Cambridge Gas Light Co., gas,	15 37	
Boston Steam Grain Mills, feed,	6 20	
Ame & Co., feed,	4 25	
H. H. Bangs & Co., grain,	41 85	
Hewey Skillins & Co., grain, etc.,	54 94	
James Bartley, grain, etc.,	8 27	
G. W. Prichard, gravel and teaming,	12 75	
J. White, teaming,	9 13	
Poor & Pierce, chairs,	13 00	
Chipman's Sons & Co., oil cloth,	12 00	
Elijah Walker, carpenter work,	250 00	
Sabin & Page, harness work,	28 80	
T. B. Wilson, harness work,	27 45	
J. N. White, harness work,	16 95	
J. G. Knapp & Co., horse collars,	7 00	
Thomas Hollis, drugs,	75	
	<hr/>	
	\$27,201 56	
EXCESS AND DEFICIENCY, balance to credit of account,	291 70	
	<hr/>	
		\$27,493 26
		<hr/>

WATER SERVICES.

Credit.

CASH, received of Miscellaneous account for labor, etc.,	\$37 81
Abner Blaisdell, for materials furnished,	4 17
W. L. Snow, for damage to pipe,	3 00
Thos. Spellman, for pipe,	15 02
Miscellaneous (watering streets) account, for watering streets,	11 00
	<hr/>
<i>Amount carried forward,</i>	\$71 00

<i>Amount brought forward,</i>		\$71 00
Schoolhouse Repairs account, for		
repairs at Edgerly Schoolhouse,		72 73
Clark Bennett, for pipe, etc.,		4 75
F. A. Titus, " "		5 00
		<hr/>
		\$153 48
WATER SERVICE ASSESSMENTS, cost of service pipes laid,		1,897 68
		<hr/>
		\$2,051 16
	Debit.	
CASH, paid laborers,	\$572 99	
Walworth Manuf. Co., fittings,	390 71	
Ward, Curley & Co., "	183 73	
Geo. Woodman & Co., castings,	177 39	
Chadwick Lead Works, lead,	78 43	
Boston Lead Co., pipe, etc.,	58 21	
Cook, Rymes & Co., clamps, etc.,	88 80	
Morris, Tasker & Co., pipe,	208 67	
J. H. Stevens & Co., hydrant handles, etc.,	10 83	
Bailey, Farrell & Co., hydrant,	4 00	
Stults & Co., solder, etc.,	4 94	
J. G. King, pipe,	9 75	
Boston Belting Co., rings,	6 60	
John Hanley, charcoal,	31 05	
City Engineer's Assistants, labor on plan,	80 00	
T. P. Barnes & Son, powder,	2 95	
H. W. Raymond, hardware,	4 62	
T. B. Adams, leather,	2 50	
Thos. Dame, plank,	1 50	
Chas. Holmes & Son, pipe,	2 03	
S. May & Co., bellows,	2 00	
A. J. Wilkinson & Co., tape measure,	4 12	
Bishop & Bro., ladder,	4 40	
M. R. Warren, stationery,	4 00	
T. F. Crimmings, teaming,	2 50	
J. A. Durell, repairing pipe,	1 25	
	<hr/>	
	\$1,937 97	
WATER MAINTENANCE, credit balance transferred,	113 19	
	<hr/>	
		\$2,051 16

WATER SERVICE ASSESSMENTS.

Credit.

CASH, received of sundry persons for water services,	\$2,388 14
BALANCE, to debit on account of 1879,	<u>577 56</u>
	\$2,965 70

Debit.

BALANCE, from 1877,	\$1,068 02	
WATER SERVICES, service pipes laid in 1878,	<u>1,897 68</u>	<u>\$2,965 70</u>

Table D.

BALANCES DECEMBER 31, 1878.

Cash,	\$6,748 78	
Excess and Deficiency,		\$19,748 05
Funded Debt,		1,596,854 00
Highway Betterment Assessments,	16,039 83	
Property and Debt Balance,	465,770 24	
Public Library,		478 06
Public Park,		33,709 95
Public Park Betterment Assessments,	39,016 79	
Public Property,	1,121,400 00	
Real Estate Liens,	19,253 44	
Sewers (Beacon and Elm Streets Sewer),		7,051 33
Sewer Assessments,	4,547 27	
Sidewalk Assessments,	2,288 97	
Somerville Water Works,		523 62
State of Massachusetts, — State Aid,	4,308 50	
State of Massachusetts, — Support of Soldiers and Sailors,	2,440 00	
Taxes,	180,973 63	
Temporary Loans,		205,000 00
Water Service Assessments,	577 56	
	<u>\$1,863,365 01</u>	<u>\$1,863,365 01</u>

REPORT
OF
COMMISSIONERS OF THE SINKING FUNDS.

IN BOARD OF MAYOR AND ALDERMEN, Feb. 3, 1879.

Referred to the Committee on Printing, with instructions to print the same in the Annual Report. Sent down for concurrence.

CHARLES E. GILMAN, *Clerk.*

IN COMMON COUNCIL, Feb. 4, 1879.

Concurred in.

DOUGLAS FRAZAR, *Clerk.*

CITY OF SOMERVILLE.

IN BOARD OF COMMISSIONERS OF THE SINKING FUNDS,
February 1, 1879.

To the Honorable the Mayor and the City Council of the City of Somerville :

GENTLEMEN, — The undersigned present herewith their third annual report as Commissioners of the Sinking Funds of this city.

The contributions by the city, raised by taxation

in 1876, 1877, and 1878, is	\$137,041 86
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And the accumulations thereto, being interest on in-

vestments and on deposits in banks, is	7,921 98
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A total of	\$144,963 84
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The present debt of the city, for the redemption of which, in accordance with the provisions of the law to regulate and limit municipal indebtedness, the sinking funds were established, is \$1,596,854, and must be paid,

\$60,000 00 in 1885, and the present amount of sinking funds for its redemption is	\$15,408 25
1,166,854 00 in 1895, and the present amount of sinking funds for its redemption is	111,883 59
35,000 00 in 1896, and the present amount of sinking funds for its redemption is	2,519 20
315,000 00 in 1905, and the present amount of sinking funds for its redemption is	14,695 43
10,000 00 in 1906, and the present amount of sinking funds for its redemption is	307 37
10,000 00 in 1907, and the present amount of sinking funds for its redemption is	150 00

\$1,596,854 00 Total debt.	Total sinking funds, \$144,963 84
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Invested as follows : —

In bonds of the city of Somerville,	\$143,000 00
Deposited in banks and drawing interest,	1,963 84
	<hr/> <hr/>

Respectfully submitted.

NATHAN TUFTS,	} <i>Commissioners.</i>
JOHN A. HUGHES,	
HENRY F. WOODS,	

ANNUAL REPORT

OF THE

SCHOOL COMMITTEE

OF THE

CITY OF SOMERVILLE,

FOR THE

YEAR 1878.

CITY OF SOMERVILLE.

IN SCHOOL COMMITTEE, Dec. 27, 1878.

The Superintendent submitted his Annual Report, which was read and unanimously accepted.

It was voted that the committee adopt the report now submitted by the Superintendent of the Public Schools, and present it to their fellow-citizens as the Report of the School Committee for the year 1878.

J. H. DAVIS, *Secretary*.

IN BOARD OF MAYOR AND ALDERMEN, Feb. 17, 1879.

Referred to the Committee on Printing with instructions to print the same in the Annual Report for 1878, and sent down for concurrence.

CHARLES E. GILMAN, *Clerk*.

IN COMMON COUNCIL, Feb. 17, 1879.

Concurred in.

DOUGLAS FRAZAR, *Clerk*.

SCHOOL COMMITTEE FOR 1878.

HON. GEORGE A. BRUCE, Mayor, *ex officio*.

LUTHER B. PILLSBURY, President of Common Council, *ex officio*.

WARD ONE.

JOHN H. BUTLER	Term expires Dec. 31, 1878.
HENRY M. MOORE	" " 1879.
SANFORD HANSCOM, M. D.	" " 1880.

WARD TWO.

MICHAEL F. FARRELL	Term expires Dec. 31, 1878.
ENOS T. LUCE	" " 1879.
CHAS. S. LINCOLN	" " 1880.

WARD THREE.

HENRY F. WOODS	Term expires Dec. 31, 1878.
JOSEPH P. WILLIAMS	" " 1879.
SELWYN Z. BOWMAN	" " 1880.

WARD FOUR.

COL. CHAS. F. KING	Term expires Dec. 31, 1878.
WALTER W. COLBURN	" " 1879.
REV. CHAS. M. SMITH	" " 1880.

Chairman.

HON. GEORGE A. BRUCE.

Secretary and Superintendent.

JOSHUA H. DAVIS.

SUBCOMMITTEES.

On the High School	Messrs. LINCOLN, BUTLER, BOWMAN, SMITH, LUCE, PILLSBURY.
On Schools in E. Somerville Dist.	" BUTLER, MOORE, HANSCOM.
On Schools in Prospect Hill Dist.	" FARRELL, LUCE, LINCOLN.
On Schools in Winter Hill Dist.	" WILLIAMS, WOODS, BOWMAN, PILLSBURY.
On Schools in Spring Hill Dist.	" KING, SMITH, COLBURN.
On Schools in W. Somerville Dist.	" COLBURN, SMITH, KING.
On Evening Schools	" FARRELL, WILLIAMS, BUTLER, COLBURN.
On Examination of Teachers	" LINCOLN, BUTLER, COLBURN.
On Text-Books	" HANSCOM, KING, LINCOLN.
On Repairs and School Furniture	" MOORE, LUCE, WOODS, COL- BURN, PILLSBURY.
On School Supplies	" WOODS, KING.
On Fuel	" WILLIAMS, FARRELL.
On Music	" KING, HANSCOM, LINCOLN.
On Finance	" BUTLER, LUCE.
On Heating Apparatus	" MOORE, BOWMAN.
On Drawing	" HANSCOM, COLBURN, SMITH.

SCHOOL COMMITTEE FOR 1879.

HON. GEORGE A. BRUCE, Mayor, *ex officio*.
EDWARD GLINES, President of Common Council, *ex officio*.

WARD ONE.

HENRY M. MOORE	Term expires Dec. 31, 1879.
SANFORD HANSCOM, M. D.	" " 1880.
JOHN H. BUTLER	" " 1881.

WARD TWO.

ALPHONZO H. CARVILL, M. D.	Term expires Dec. 31, 1879.
CHAS. S. LINCOLN	" " 1880.
OREN S. KNAPP	" " 1881.

WARD THREE.

JOSEPH P. WILLIAMS	Term expires Dec. 31, 1879.
HON SELWYN Z. BOWMAN	" " 1880.
HENRY F. WOODS	" " 1881.

WARD FOUR.

PROF. BENJ. G. BROWN	Term expires Dec. 31, 1879.
REV. CHAS. M. SMITH	" " 1880.
HENRY C. BUCK	" " 1881.

Chairman.

HON. GEORGE A. BRUCE.

Secretary and Superintendent.

JOSHUA H. DAVIS.

SUBCOMMITTEES.

On the High School	Messrs. LINCOLN, BUTLER, BOWMAN, SMITH, BROWN.
On Schools in E. Somerville Dist.	" MOORE, HANSCOM, BUTLER.
On Schools in Prospect Hill Dist.	" KNAPP, LINCOLN, CARVILL.
On Schools in Winter Hill Dist.	" WOODS, WILLIAMS, BOWMAN, GLINES.
On Schools in Spring Hill Dist.	" SMITH, BROWN, BUCK.
On Schools in West Somerville Dist.	" BROWN, BUCK, SMITH.
On Evening Schools	" WILLIAMS, CARVILL, BUCK.
On Examination of Teachers	" BUTLER, KNAPP, LINCOLN.
On Text-Books	" HANSCOM, LINCOLN, BOWMAN.
On Repairs, Furniture, Heating Apparatus	" MOORE, GLINES, WILLIAMS, BUCK, CARVILL.
On School Supplies	" WOODS, HANSCOM.
On Fuel	" WILLIAMS, BUCK.
On Music	" HANSCOM, LINCOLN, SMITH, BOWMAN.
On Finance	" BUTLER, WOODS.
On Drawing and Penmanship	" BOWMAN, WOODS, SMITH, CARVILL.
On Salaries	" KNAPP, HANSCOM, SMITH, WOODS, LINCOLN.
On Examination of First Class	" HANSCOM, WOODS.
On Examination of Second Class	" SMITH, KNAPP.
On Examination of Third Class	" LINCOLN, BUTLER.
On Examination of Fourth Class	" BROWN, MOORE.
On Examination of Fifth Class	" BOWMAN, CARVILL.
On Examination of Sixth Class	" WILLIAMS, GLINES, BUCK.

SUPERINTENDENT'S REPORT.

To the School Committee of Somerville :

GENTLEMEN, — In compliance with the requirements of your Rules, I respectfully submit the following Report of the public schools for the year 1878.

All the agencies usually employed for the prosecution of school work have been in successful operation during the year, and everything has conspired to the prosperity of the educational interests of the city.

No important changes have been effected in the arrangement and general features of the schools; but in their more minute details the schools of the present year have been essentially different from those of any preceding year. The same general uniformity and specific differences that mark the recurring seasons characterize the schools of successive years. The experience of each day in the same school differs materially in many particulars from that of any other day. Hence it is that a well-regulated and wisely conducted school is never monotonous, but is constantly presenting new features of interest and profit.

Experience proves that all true progress is comparatively slow. The race has never made rapid advances in either morality or intelligence. But a careful comparison of remote or contiguous periods gives cheering evidence of constant and substantial improvement as time advances. Each succeeding generation has taken a position in advance of that previously occupied and has secured and enjoyed a higher order of civilization. The present age is pre-eminently above all previous ages in whatever tends to the elevation of the race. Modern methods of instruction secure a higher order of development and a higher average of attainment in the several departments of the schools, with less expenditure of time and with less waste of vital force.

SCHOOL POPULATION. — The school census and records show a gradual increase in our school population. The number of

persons in the city between five and fifteen years, on the first day of May last, as ascertained by the Truant Officer, was 4,424, being 167 more than at the corresponding time of the previous year. The whole number of pupils registered during the year is 5,038. Whole number in attendance at the present time is 4,245, being 147 more than the number in attendance in December, 1877.

These are distributed as follows: —

In the High School	244
“ “ Grammar Schools	2,152
“ “ Primary Schools	1,849

TABLE SHOWING THE NUMBER OF PUPILS IN EACH OF THE THIRTEEN CLASSES IN DECEMBER, AND THE AVERAGE AGE OF PUPILS IN EACH CLASS.

School.	Class.	Boys.	Girls.	Total.	Average Age.
High	First	18	18	36	18 yrs. 2½ mos.
	Second . . .	12	26	38	17 yrs 4 mos.
	Third	31	39	70	16 yrs. 6 mos.
	Fourth . . .	46	54	100	15 yrs. 7 mos.
Grammar	First	55	83	138	14 yrs 9 mos.
	Second . . .	102	90	192	13 yrs. 11 mos.
	Third	159	146	305	12 yrs. 11 mos.
	Fourth . . .	207	217	424	12 yrs. 2 mos.
	Fifth	245	231	476	11 yrs 2 mos.
	Sixth	335	282	617	9 yrs. 11 mos.
Primary	First	252	273	525	8 yrs. 8 mos.
	Second . . .	259	238	497	7 yrs. 9 mos.
	Third	429	398	827	6 yrs. 2 mos.
Total		2150	2095	4245	10 yrs. 1 mo.

SCHOOLS. — To provide for the increase in the school population, four new schools have been organized during the year: — one in Winter Hill district; one in Prospect Hill district; one in Spring Hill district; one in West Somerville district.

Whole number of schools	82
High School	1
Grammar Schools	46
Primary Schools	35

TEACHERS. — To fill vacancies that have occurred, and for the new schools, the following named teachers have been elected within the year : —

Luther B. Pillsbury, Esq., submaster of the High School.

John S. Hayes, Esq., principal of the Forster School.

Miss Mary E. Lothrop, teacher in the Forster School.

Miss Nellie M. Whitney, teacher in the Forster School.

Miss Lizzie G. Perry, teacher in the Forster School.

Miss Abbie A. Anderson, teacher in the Prescott School.

Miss Sarah E. Pray, teacher in the Clarendon Block School.

Whole number of teachers	90
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Male teachers, 8 ; female teachers, 82.

Number of teachers in the High School	6
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Male teachers, 2 ; female teachers, 4.

Number of teachers in the Grammar Schools	49
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Male teachers, 5 ; female teachers, 44.

Number of teachers in the Primary Schools	34
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One teacher of vocal music.

During the last twelve years 138 teachers have been elected, 53 have resigned, and 4 have died. Of the 90 teachers connected with the schools at the present time, only 9 have been in the employment of the city more than twelve years. Within the last twelve years, 67 teachers have been elected from the graduates of our High School. Of this number 38 are still connected with the schools.

ADDITIONAL SCHOOL ACCOMMODATIONS. — The financial condition of the city, for the last few years, has demanded the exercise of economy, and has warranted the policy of making temporary arrangements for the accommodation of additional schools. The Luther V. Bell Schoolhouse, the last constructed, was completed in 1874. Since that time, various expedients have been employed to avoid the necessity for the construction of school buildings. The average number of pupils to a teacher has been increased ; school-halls have been converted into school-rooms ; and rooms have been hired and furnished temporarily for school use.

If our population continues to increase in the future as it has increased in the past, there will soon be a demand for additional school buildings in various parts of the city. In West Somerville district there is an immediate and urgent demand for additional

accommodations. Three of the seven schools in that district are occupying rooms that have been hired and prepared for their use. There will be large accessions to the Primary Schools, as usual, during the spring and summer, and only a small class will graduate from the Grammar School in June; consequently there will be a necessity for the formation of an additional school at the beginning of the school year, in September next, even if there is no increase of population. At present, there is no available room in the district suitable for school use.

The immediate wants of that section of the city would be supplied by the addition of four school-rooms to the Lincoln School-house, or by the erection of two primary-school buildings in neighborhoods farthest removed from the centre of the district. The enlargement of the present building would be the more economical arrangement, as it would necessitate the purchase of only a small quantity of land in addition to that now owned by the city; but the construction of new buildings would place accommodations near the homes of the smaller children.

GENERAL REGULATIONS AND COURSES OF STUDY.

— The rules of the Board of School Committee, and the regulations and courses of study for the several departments of the schools, have been carefully revised during the year. Requirements in arithmetic and geography have been reduced by the elimination of several subjects of comparatively little practical value. Greater prominence has been given to such studies as will secure proficiency in the knowledge of language and facility in its use. The study of English Literature is to be pursued through the entire course in the High School. Provision has been made for a wider range of reading, by the introduction of a larger number of reading books. Munroe's Reading Charts have been introduced into the lowest grade of the Primary Schools. The results obtained from their use are very satisfactory, and more than realize expectations.

CHANGES IN THE SCHOOL BOARD. — In consequence of ill health, Walter W. Colburn, Esq., resigned his position as member of the School Committee in September last. The vacancy thus occasioned was filled Oct. 9, in convention of the City Council and the School Board, by the election of Prof. Benj. G. Brown. November 30th, Enos T. Luce, Esq., tendered his resignation on account of the urgency of other duties.

EXPENDITURES. — In their endeavor to reduce the expenses of the city in its various departments, the City Council have received the co operation of the School Board. No expenses have been incurred during the year, except such as the best interests of the schools demanded. Teachers' salaries have been reduced to the average paid by other cities similar to our own. The contract with the teachers under the former rate of salaries did not terminate, however, until the end of the school year. Hence the reduced rates did not apply until the beginning of the fall term in September last. During the last four months of the present year, the number of female teachers has been three more than during the corresponding time in 1877, and the number of male teachers has been one less; but the amount paid for teachers' salaries for the last four months of this year is \$2,180 less than the amount paid for the same number of months last year.

EXPENDITURES FROM JAN. 1, 1878, TO JAN. 1, 1879.

BY THE CITY COUNCIL.

Repairs and permanent improvements,	\$4,299 13	
Insurance	133 32	
Rent	650 00	
Fuel	2,676 33	
	<hr/>	\$7,758 78

BY THE SCHOOL COMMITTEE.

Teachers' salaries for day schools . . .	\$66,405 47	
“ “ evening “ . . .	295 50	
Superintendent's salary	2,000 00	
Janitors' salaries	3,367 72	
Truant officer's salary	800 00	
Water	372 29	
Gas	395 07	
Printing	268 82	
Books	1,158 50	
Writing books	497 08	
Stationery and other school supplies . .	816 53	
Miscellaneous	556 16	
	<hr/>	\$76,933 14
Total expenditures		\$84,691 92

RECEIPTS.

Tuition of non-resident pupils . . .	\$116 00	
Rent of school halls	68 50	
Sundries	51 44	
	<hr/>	\$235 94
Net expenditures		\$84,455 98

PRIMARY SCHOOLS.

SCHOOLS.	TEACHERS.	Average whole number.	Average attendance.	Per cent of attendance.
Forster	M. H. Pennock	48.5	45.3	93.4
“	N. M. Whitney	49.4	45.5	92.1
“	L. G. Perry	45.8	42.9	93.6
Prescott	S. E. Pratt	51.2	48.1	93.9
“	E. M. Plummer	59.7	55.7	93.3
“	M. A. Rice	62.3	56.0	90.0
Edgerly	A. L. Prescott	48.8	46.4	95.1
“	C. M. Bagley	54.6	51.2	93.8
Tufts Street	H. V. Hathaway	46.6	44.0	94.4
“	Ada Cowles	51.4	43.6	84.8
L. V. Bell	L. F. Appleton	58.8	53.9	91.7
“	A. M. Houghton	62.4	54.9	87.9
Prospect Hill	I. A. Howe	52.5	49.6	94.5
“	L. F. Howe	46.7	43.7	93.6
“	C. I. Houghton	52.3	48.0	91.8
Brastow	L. D. Harding	50.1	46.6	93.0
Bennett	A. Sanderson	38.6	36.2	93.8
“	M. B. Currier	47.3	43.7	92.4
“	E. F. Schuh	52.0	47.8	91.9
Jackson	R. F. Woodberry	46.6	44.0	94.4
“	M. L. Sanderson	42.8	40.6	94.9
“	L. A. Brine	44.6	41.3	92.6
Webster	A. L. Savage	48.3	44.8	92.8
“	N. O'Leary	45.6	41.7	91.4
Union	I. M. Prince	58.7	49.6	84.5
Beech Street	Marion Damon	52.5	49.9	95.0
Spring Hill	L. M. Wilde	61.7	55.3	89.6
Franklin	E. C. Ruggles	49.6	45.9	92.5
“	H. A. Hills	43.6	40.4	92.6
Harvard	A. E. Robinson	51.5	45.9	89.1
Clarendon Block	C. L. Lacount	57.1	52.8	92.4
“	S. E. Pray	37.4	33.0	88.2
Holland Street	P. Jenette Teele	33.2	29.6	89.1
Cedar Street	A. M. Porter	37.1	29.6	80.0
Morse	Organized Dec. 30.			
Total . . . . .	. . . . .	1689.3	1547.5	91.7

For a series of years the Primary Schools have contained from 42 to 45 per cent of the pupils in all the schools. Children may enter these schools at any time, provided that they are qualified to join existing classes. Beginners are admitted during the month of September, the two weeks next succeeding the Christmas holidays, and the first two weeks in April. They may enter at five years of age, but their average age at the time of entering is about six years. In consequence of admitting beginners at three different periods, the third class is composed of three divisions, the first of which is constantly receiving accessions, through the year, by individual promotions from the other two divisions, and becomes the second class at the commencement of the succeeding school year.

Average whole number of pupils for the year	.	.	1,689.3
Average attendance	.	.	1,547.5
Per cent of attendance	.	.	91.7
Number of pupils in December	.	.	1,849

When the present and the past are compared, no department of the schools shows greater improvement than the primary department. The capabilities of children are better understood than formerly, and as a consequence, there is a wiser adaptation of methods. Pupils are furnished with employment that is pleasing to them and suited to their capacity. Their development is more natural and rapid, the better qualities of their natures are kept in the ascendancy, and the temptation to wrong-doing is greatly diminished. Each succeeding year shows a most gratifying decrease in the amount of corporal punishment in the Primary Schools. The number of cases recorded this year is only one half as large, *pro rata*, as that reported in 1874.

The condition of a large proportion of the schools of this grade merits unqualified commendation. All of the teachers are laboring with fidelity, and an earnest effort is made to elevate all schools in this department to the standard attained by the most meritorious of them.

GRAMMAR SCHOOLS.

SCHOOLS.	TEACHERS.	Average whole number.	Average attendance.	Per cent of attendance.
Forster	J. S. Hayes	42.1	41.1	97.7
“	M. E. Northup	43.9	41.9	95.5
“	F. M. Guptill	53.5	51.0	95.5
“	A. A. Batchelor	51.9	48.7	93.8
“	H. E. Magoun	50.8	47.8	94.1
Prescott	G. A. Southworth	41.8	41.0	98.1
“	V. E. Hapgood	48.0	46.8	97.5
“	H. N. Sands	33.7	32.1	95.2
“	Adelaide Reed	33.8	32.6	96.4
“	F. P. Hudson	50.4	48.8	96.8
“	A. A. Anderson	46.8	44.2	94.4
“	N. W. Proctor	55.4	53.2	96.0
“	C. T. Brown	42.0	39.8	94.7
“	Clara Taylor	46.2	43.2	93.5
Edgerly	A. M. Cowles	52.0	48.8	93.9
“	A. I. Sears	48.8	45.4	93.0
L. V. Bell	S. C. Higgins	39.5	38.2	96.7
“	C. A. Battles	45.6	43.7	95.8
“	L. L. Gordon	43.6	41.2	94.5
“	E. M. Gooding	42.6	40.8	95.8
“	C. S. Plimpton	47.0	45.0	95.7
“	A. C. Hunt	46.6	43.2	92.7
“	F. A. Wilder	46.2	42.6	92.2
“	A. M. Snow	54.2	52.0	95.8
“	L. J. Page	53.2	49.8	93.6
Prospect Hill	A. A. Roberts	47.8	45.4	94.9
“	H. M. Sears	50.8	47.8	94.2
“	Maria Miller	40.6	38.8	95.5
“	Ellen Ledyard	52.0	49.0	94.2
Brastow	S. E. Pennock	42.4	40.2	94.8
Bennett	Helen Tincker	52.4	49.4	94.2
Jackson	L. W. Shelton	43.4	40.8	94.0
Webster	A. L. Sanborn	46.6	43.6	93.6
Morse	C. C. Hunkins	28.0	26.6	95.0
“	N. P. Nichols	41.0	39.2	95.6
“	P. S. Downes	44.6	43.2	96.9
“	H. W. Chapin	52.7	48.5	92.0
“	A. E. Sawyer	53.0	50.6	95.4
Beech Street	M. A. Haley	47.8	44.8	93.7
Franklin	J. E. Clark	32.6	30.7	94.2
“	L. C. Howe	37.2	34.8	93.5
Lincoln	G. E. Nichols	29.8	28.4	95.3
“	Jennie Colburn	44.0	40.4	91.8
“	Georgiana Cutter	44.5	41.2	92.6
“	L. J. Conwell	51.2	47.6	92.9
Cedar Street	Alice Simpson	42.0	37.9	90.2
Total . . . . .	. . . . .	2084.0	1971.8	94.6

The schools of this department have contained 52.2 per cent of the pupils in all the schools, during the year.

Average whole number for the year	.	.	.	.	2,084
Average attendance	.	.	.	.	1,971 8
Per cent of attendance	.	.	.	.	94.6

The per cent of attendance, in this department, during each of the six years next succeeding 1872, has been as follows: 94.2, 94.3, 94.8, 94.7, 94.7, 94.6.

Tardiness has been reduced two thirds within five years, and the amount of corporal punishment has been reduced more than one third in the same time. In two schools there has been no case of corporal punishment during the year; two teachers report one case each; one teacher reports two cases; and two teachers report four cases each.

The principals of the several Grammar Schools and their assistants are all teachers of experience and ability. The schools in this department, with scarcely an exception, are well conducted and are producing satisfactory results.

At the close of the school 'year one hundred and twenty-six pupils graduated from the Grammar Schools as follows:—

From the Luther V. Bell School	.	.	.	39
“ Prescott School	.	.	.	36
“ Morse School	.	.	.	26
“ Foster School	.	.	.	15
“ Lincoln School	.	.	.	10

Of the graduates, one hundred and six applied for admission to the High School; ninety-seven passed a satisfactory examination; ninety-two entered the High School in September.

HIGH SCHOOL.

Whole number of different pupils during the year .	321
Average whole number for the year	218.6
Average attendance	214.4
Per cent of attendance	98.0
Largest number at one time	250
Number admitted during the year	110
Number graduated	32

The number of graduates is forty-four per cent of the number of pupils forming the class on entering the school.

Number who have left the school during the year, exclusive of the graduates	43
Whole number at the present time	244
Number over fifteen years of age	209
Number in course preparatory to college . . .	54
In the first class	16
“ second class	8
“ third class	17
“ fourth class	13
Number pursuing the regular course	152
Number pursuing the English course	38
Number of pupils in the first class on entering the school	81
Number at the present time	36
Number in the second class on entering the school .	86
Number at the present time	38
Number in the third class on entering the school .	83
Number at the present time	70
Number in the fourth class at the beginning of the school year	95
Number at the present time	100

Whole number of pupils received from our Grammar Schools during the year is ninety-two, being thirteen more than were received last year. Eighteen persons have entered the school within the year from schools outside of the city. Of this number, three joined the first class; seven the third class; eight the fourth class.

The number of teachers in the High School, at the present time, is the same that it was in 1871, — the first year that a submaster was employed in the school. During that year the average whole number of pupils was 150, and the largest number at one time was 161. During the present year the average whole number has been 218, and the largest number at one time. 250.

The larger school-rooms are much crowded, and the several divisions into which the classes are separated for recitation contain more pupils than can be instructed at once to advantage. All of the principal's time is occupied in conducting recitations, and no opportunity is afforded him for the general supervision of the school. If an additional teacher could be employed, and a portion of the pupils could occupy the third floor of the school building, the larger rooms would be relieved, the number of pupils in the several divisions would be reduced, the principal, by being relieved from a portion of his recitations, would have time for a more general oversight of the various classes, and the efficiency of the school would be greatly promoted.

TWENTY-SIXTH ANNIVERSARY OF THE HIGH SCHOOL,
MONDAY, JULY 1, 1878.

ORDER OF EXERCISES.

BURLESQUE ON — “Carnival of Venice.”

Gung'l.
ORCHESTRA.*

1. SINGING.

Chorus: “Heaven and the earth display,” from “Athalie.”

Mendelssohn.

Invisible Chorus: “Dinorah.”

Meyerbeer.

2. SALUTATORY IN LATIN.

WILLIAM AMOS LAMPREY.

3. READING. — From “Quatrevingt-Treize.” (Original Translation.)

Victor Hugo.

CARRIE NICKERSON SANDERSON.

4. ESSAYS. — *National Honor.*

DEXTER FRANKLIN BENNETT.

Strange Fellows.

ELIZABETH LOUISE SMITH.

5. READING. — Concepcion de Arguello.

Bret Harte.

CORA JOSEPHINE STILLSON.

* Hadley's Orchestra.

6. GREEK DIALOGUE.
JOHN CARL DUGAN, FRANK WARTON KAAAN, WILLIAM AMOS LAMPREY.
 7. SINGING. — Selections from "Don Munio." *Buck.*
 - a* — Baritone Solo: "The night hath fallen round us."
 - b* — Chorus: Ave Maria.
 8. READING. — From "Pickwick Papers."
MARTHA JANE WORSLEY.
 9. ESSAYS. — *English Classics.* MAUDE MARY HOBSON.
 - Curves and Angles.* MARGARET SHUSTER BENNERS.
 10. ORIGINAL CONTRIBUTIONS. MINNIE ETTA ELLIS.
 - War March of the Priests, from "Athalie." ORCHESTRA.
- Recess.*
11. SINGING. — Song: Ave Maria. (With piano, organ, and violin solo.)
 - (Violin solo by Geo. Duseault.) *Bach-Gounod.*
 - Damascus: Triumphal March, Solo and Chorus. "Naaman." *Costa.*
 12. "Raison Démonstrative." (Rival Professions.) *Molière.*
 - ARTHUR BEVERIDGE DALTON, FRANK WARTON KAAAN,
 - ROBERT LUCE, FREDERICK WILLIAM SHAW.
 13. POEM. *Changes.* SADIE CALISTA BAGLEY.
 14. READING. — Pons Suspiriorum. LAURA CLARK GROSS.
 15. ESSAY. *Brilliantes.* IDA MAY BLAICKIE.
 16. SINGING. — Chorus (Male Voices) with Soprano Obligato (unaccompanied):
 - The Image of the Rose. *Reichardt.*
 - Trio: The Cuckoo (Female Voices) (Instrumentation by H. Hadley). *Hiller.*
 17. From "A Midsummer Night's Dream."
 - FRED LEE COLE, WILLIAM EUSTIS DANIELS,
 - JAMES HUGHES HOPKINS, WILLIAM HENRY RUSSELL, and others.
 18. READING. — O'Connor's Child. *Campbell.*
 - ELLA HERMIONE HOOD.
 19. PROPHECIES. ABBIE ALMA STEELE.
 20. SINGING. — Semi-chorus: Spinning Wheel, "Flying Dutchman."
 - Unison Solo: Jesus of Nazareth. *Wagner.*
 - Gounod.*
 21. VALEDICTORY. GRACE ALMA PRESTON.
 22. PRESENTATION OF DIPLOMAS by MAYOR GEO. A. BRUCE.
 23. PARTING HYMN. Written by LIZZIE BERRY PAUL.
 - Music composed by DEXTER FRANKLIN BENNETT.

MEMBERS OF THE GRADUATING CLASS.

Sadie Calista Bagley,
 Margaret Shuster Benners,
 Ida May Blaikie,
 Minnie Etta Ellis, .
 Maude Mary Hobson,
 Ella Hermione Hood,
 Cora French Lewis,
 Annie Elizabeth McCarty,
 Mary Augusta Melvin,
 Emma Louise Mulla,
 Lizzie Berry Paul,
 Carrie Nickerson Sanderson,

Mary Lucia Shepard,
 Abbie Alma Steele,
 Cora Josephine Stillson,
 Sara Abigail Stone,
 Isadore Emma Taylor,
 Martha Jane Worsley,
 Dexter Franklin Bennett,
 Fred Lee Cole,
 Arthur Beveridge Dalton,
 William Eustis Daniels,
 William Henry Russell.

OF THE COURSE PREPARATORY TO COLLEGE.

Laura Clark Gross,
 Grace Alma Preston,
 Elizabeth Louise Smith,
 John Carl Dougan,
 James Hughes Hopkins,
 Frank Warton Kaan,

William Amos Lamprey,
 Frederic William Shaw.

OF TWO COURSES (ONE YEAR
 ADDITIONAL).

Robert Luce.

EVENING SCHOOL.

The evening school that was in operation at the close of last year was continued in the hall of the Luther V. Bell Schoolhouse until the first of March.

Whole number of registered pupils	273
Boys, 239 ; girls, 34	
Average attendance	55
Boys, 46 ; girls, 9.	
Number of sessions	24

The school was reopened November 11, in the hall of the building located on the corner of Washington and Prospect Streets.

Teachers : Herbert A. Chapin, Principal, William H. Aiken, Arthur S. Eddy, and E. W. Powers, Assistants.

Whole number of pupils registered during the last two months	241
Boys, 208 ; girls, 33.	
Average attendance	58
Number of sessions	32

COST OF THE YEAR.

Tuition, 56 evenings	\$295 50
Janitor's services	31 00
Books and stationery	15 00
Gas	83 00
Total	<u>\$424 50</u>

OBJECTS OF EDUCATION.

A prominent writer on educational subjects gives the following comprehensive statement: "Education has for its objects the development and training of all the powers and faculties of a human being completely and harmoniously, the furnishing of the mind with knowledge of the most worth in the performance of duties, the subjection of all the powers to the control of intelligent and beneficial motives, and the formation of the habit of yielding instant obedience to physical and spiritual laws."

Herbert Spencer says, "*How to live* is the essential question. Not how to live in the mere material sense only, but in the widest sense. . . . *To prepare us for complete living is the function which education has to perform.*" Prof. Huxley says, "That man, I think, has had a liberal education who has been so trained in youth that his body is a ready servant of his will, and does with ease and pleasure all the work that, as a mechanism, it is capable of; whose intellect is a clear, cold logic engine, with all its parts of equal strength, and in smooth working order, ready, like a steam-engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of the mind; whose mind is stored with a knowledge of the great and fundamental truths of nature and of the laws of her operations, — one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of nature or art, to hate all vileness, and to respect others as himself."

This high standard of attainments, so graphically presented, being within the range of human possibilities, should be adopted as the ideal of every teacher, and should be a constant incentive to the accomplishment of all the objects of education as here presented. Apparent results may frequently disappoint, but should never discourage nor lead to the acceptance and pursuit of less worthy aims.

AGENCIES EMPLOYED TO SECURE THE OBJECTS OF EDUCATION. — Numerous agencies are in operation to promote general education and to elevate the standard of intelligence in communities; as the pulpit, the press, popular lectures, and public libraries accessible to all classes. Then there is what Bul-

wer styles "life-education," that education which is acquired by social intercourse and the pursuit of the various avocations of life. To these must be added all regularly organized institutions of learning, from the highest to the lowest, prominent among which are the public schools, the special objects of our consideration and solicitude.

Firm in their convictions that the stability of a republic depends largely upon the general intelligence of the people, it was the first care of those who laid the foundation of our free institutions to provide for the education of the young in every condition in society.

The system of providing for the education of all the people, at public cost, early inaugurated, has received the fostering care of successive legislatures. From time to time, old laws have been repealed or modified, and new laws have been enacted to provide for the recurring and ever-varying demands of communities. The people have cheerfully availed themselves of all legal provisions, and the public schools have ever been among our most highly cherished institutions.

From the organization of Somerville to the present time, its citizens have pursued a generous policy in regard to the interests of education. All statute requirements have been fully complied with, and all needful appliances for the comfort and convenience of pupils and for the successful prosecution of school work have been liberally furnished. The rate of salaries has ever been such as to enable successive committees to secure the services of teachers of more than average ability. As a consequence, our schools have always maintained a high standard of excellence.

Under existing arrangements, the school-year consists of forty weeks, exclusive of vacations. The course of study is so arranged that pupils of good health, of average mental ability, and who are regular in their attendance, can complete the work of the Primary Schools in three years, of the Grammar Schools in six years, and of the High School in four years. Regular class promotions are made in the several schools annually. Individual promotions are made whenever the interests of pupils require them.

TABLE SHOWING THE AVERAGE AGE OF ALL PUPILS AT THE TIME
OF ENTERING THE SEVERAL CLASSES DURING THE LAST FOUR
YEARS.

SCHOOLS.	CLASS.	AVERAGE AGE.	
Primary	Second	7 years	5 months.
"	First	8 "	8 "
Grammar	Sixth	9 "	9 "
"	Fifth	10 "	11 "
"	Fourth	12 "	0 "
"	Third	12 "	9 "
"	Second	13 "	6 "
"	First	14 "	5 "
High	Fourth	15 "	1 month.
"	Third	15 "	10 months.
"	Second	16 "	8 "
"	First	17 "	7 "

BASIS OF PROMOTIONS. — Pupils are entitled to promotion whenever, by their mental development and familiarity with preparatory studies, they are qualified to pursue with profit those of the next higher grade. But promotions should be made with great caution, since it is all-important that the instruction imparted to pupils and the studies pursued by them should be adapted to their comprehension. A reliable and just criterion, therefore, of a pupil's understanding of the subjects passed over, and of his fitness for advancement to others of higher order, is a matter of vital importance in school management.

We regard a well-conducted written examination one of the best tests of the accuracy of knowledge, and an average of the results of a series of such a fair basis of promotions. Hence we have adopted the following method: In the High School there are written test examinations monthly. In the Grammar Schools pupils are examined five times during the year, in each study pursued by them. The first and second classes have a *written* examination in some study once in two weeks; the third and fourth classes, once in about three weeks; and the fifth and sixth classes once in four weeks. The questions for the examinations in January and June are prepared by the superintendent; those for all other examinations are prepared by the teachers and approved by their principal. A record of these examinations is kept by the teachers, and an

average of their results is the basis of promotions for all pupils except those of the first class of each Grammar School. At the close of the school-year, the graduates of the Grammar Schools and all other applicants for admission to the High School are required to pass an examination which is conducted by the Chairman of the Committee on the High School, the principal of the school, and the superintendent. The average of the result of this examination and of the several bimonthly examinations is the basis of promotion to the High School.

The experience of several years has proved that our method of promotions is *reliable*. Pupils who could pursue the studies of the next higher class with profit have rarely failed of promotion by it; and promotions have seldom proved to have been premature, when all of its conditions had been fully complied with. And yet our method of examinations is liable to serious objections, and receives the criticisms of men whose mature judgment and long experience in school matters claim for their opinion respectful and thoughtful consideration.

The following are among the leading objections to examinations so far as they apply to pupils. "1. Studies too generally conform to examinations. Teachers and pupils are induced, not to say obliged, to shape their work according to the tests they expect to be applied to it. 2. Examinations are usually prepared for, just before they are taken, by a burst of cramming. 3. They often undo instruction itself, turn it from training into coaching. 4. A long period of apprehension often precedes them, and a dark shadow hangs over them, depressing the more sensitive pupil and preventing his doing himself justice."

If examinations are ever so prepared for and conducted that all or any of the objections specified will apply to them, they are not only harmful in their effects upon the pupils, but they defeat the object for which they are instituted, and bring into disrepute an important agency in school work.

Our confidence in the fidelity of our teachers will not permit us to impute to them motives so narrow and unworthy as those intimated by these criticisms. But persons of the best intentions sometimes glide inadvertently and almost unconsciously into practices which they would never deliberately adopt. We would, therefore, kindly but earnestly counsel our teachers to exercise great vigilance in guarding against every tendency in the direction of the objections

under consideration. Looking beyond the present, our constant endeavor should be, in all of our teaching and training, to prepare our pupils for their life-work, to make them strong to resist evil, and valiant for the performance of whatever is incumbent upon good citizens.

Examinations should not be too frequent. They should not be so difficult as to produce discouragement, nor so easy as to induce carelessness. They should be a review of the leading topics pursued in a given time, especially those topics which have reference to future work. In the preparation of questions for an examination, we should not presume upon the possession by our pupils of much knowledge outside of the prescribed work of the schools. No immediate special preparation should be made for examinations. Indeed, in all of our work we should avoid whatever could be construed into *cramming*, a term so frequently repeated by critics. During the examination, ample time should be given for the deliberate consideration of every question, and nothing should be said or done at any time to excite unduly the anxiety of sensitive pupils.

Dr. Eliot, superintendent of the public schools of Boston, says, "It is only by using examinations helpfully that we can make them helpful. Adapted as they should be to what precedes and what is to follow after them, too moderate to injure health of mind or body, true to their own functions, they are among the most serviceable of our agencies. Like everything else that is good, like exercise, like study, like enthusiasm, they can be perverted, and then they turn into evil. Just as any other burdens, these can bend the shoulders and break the spirit, or they may be borne upon uplifted head and with buoyant heart."

GENERAL AIMS. — It is our endeavor to make the instruction imparted in our schools as practical as possible in its character. We wish to communicate to our pupils such knowledge as will be most helpful to them in the performance of the work that will be demanded of them in the various avocations of their choice. We study to adapt our teaching to the capacities and necessities of our pupils, and to conform as nearly as possible to the natural order of development. With the younger scholars we proceed from the minute to the general, from the concrete to the abstract, and arrive at general principles and conclusions by an easy gradation.

Since the ability to add, subtract, multiply, and divide with rapidity and accuracy is of great value to pupils as they advance to more intricate work, we endeavor to secure, in the lower grades, promptness and accuracy in the combination of simple numbers. We devote time and attention to processes, more especially, reserving explanations of abstract principles to a later period, when the minds of our pupils are capable of appreciating them. We recommend the employment of small numbers in all mathematical calculations throughout the entire course, since by their use principles are as readily illustrated, and familiarity with processes is more rapidly secured and with much less weariness to pupils.

As we have already intimated, much greater prominence is given to the study of language in all grades of the schools at the present time than formerly. The study of technical grammar is not begun until the middle of the third year in the Grammar Schools; but exercises in the correct use of language, spoken and written, constitute a part of the duties of each day, in every grade, beginning with the Primary Schools. To secure greater accuracy and to fix more firmly in the mind the knowledge acquired, we have recourse frequently to written exercises in the various studies pursued.

Memorizing. — Memory being one of the most important faculties of the mind, its proper improvement claims our constant care. We would not burden it with unimportant details, but enrich it with knowledge of the highest value. One of the most important duties of the teacher is to unmask the treasures of knowledge contained in the text-books of the schools, and to discriminate carefully between what should be committed to memory and what should receive only cursory consideration. Pupils throughout their entire course are encouraged and required to express their thoughts in their own language. But exact scholarship demands that they should be able to state important rules, definitions, and general principles in the clear, concise, and appropriate language of carefully prepared text-books. Intelligent thought should always be an accompaniment of memorizing. Since it is easy to remember what is well understood, pupils should first gain a clear comprehension of a principle, and then they are prepared to commit an accurate statement of it to memory. When a principle is clearly comprehended and the memory has in its keeping the most appropriate language for its expression, knowledge concerning it is complete.

Oral Instruction. — As an accompaniment of careful study, oral instruction may be of great value, but when it is employed as a substitute for study, it is of little worth. Nothing can supply the place of patient labor. “The prizes in life are won by hard work.” A teacher’s success depends, in a large degree, upon his ability to stimulate his pupils to persistent efforts for self-improvement. Dr. Arnold of Rugby, that prince of educators, sought above all things to promote the self-development of the youth committed to his charge, by encouraging them to cultivate their own intellects. When pupils come to a recitation after careful preparation for it, they are in a condition to derive great benefit from oral instruction. Passing events and the lessons of each day are suggestive of much instruction that can be communicated to pupils, and that will give them clearer conceptions of the subjects of their study and promote their general intelligence. To render such instruction effective, however, requires careful preparation. The secret of successful teaching is a thorough preparation for each day’s work. Without such preparation teachers cannot long maintain in their own minds that degree of interest and enthusiasm which will arouse the activities of their pupils and inspire them with a love of knowledge and a desire for self-improvement.

CONCLUSION.

The foregoing is an exhibit of the apparent condition of the schools and the work which they have accomplished during the year, so far as these may be represented by words and figures. But the *real* work of the schools, that which has exercised a moulding influence upon the characters of our pupils, and is to affect materially their lives through all of their subsequent years, cannot be tabulated. As the agencies which produce all the phenomena that pass under our observation in the material world are silent in their operations, so those moral influences which are ever emanating from the schools and are constantly leaving their impress upon the sensibilities of the young, escape common observation and are perceived only in their effects.

Human sagacity is incompetent to penetrate the future or to form an accurate conception of its possibilities even. We are ignorant, therefore, of what will be demanded of the youth now composing the schools, when they will be required to assume the

duties and responsibilities of citizens. But the signs and tendencies of the present awaken in the minds of the thoughtful, even the most sanguine of them, apprehension and alarm, and force upon us the conviction that those who are to meet the emergencies of the future will need to be fortified with all the strength that education can impart to the natural abilities with which they are endowed.

In view of all that depends upon them, the educational interests of the community cannot be overrated; neither can those on whom rests the responsibility of their supervision be too deeply impressed with the importance of the trust which they have accepted.

Permit me, gentlemen, in closing, to thank you most cordially for the constant courtesy and numerous kindnesses I have received from each one of you.

Respectfully submitted.

J. H. DAVIS,

Superintendent of Public Schools.

DECEMBER 27, 1878.

ANNUAL REPORT

OF THE

SOMERVILLE MYSTIC WATER BOARD,

1878.

CITY OF SOMERVILLE.

IN BOARD OF MAYOR AND ALDERMEN, Feb 17, 1879.

Referred to the Committee on Printing, with instructions to print the same in the annual report of 1878, and sent down for concurrence.

CHARLES E. GILMAN, *Clerk*.

IN COMMON COUNCIL, Feb. 27, 1879,

Concurred in.

DOUGLAS FRAZAR, *Clerk*.

CITY OF SOMERVILLE.

IN WATER BOARD, January 1, 1879.

To the City Council of the City of Somerville :

The Somerville Mystic Water Board herewith respectfully submit their report for the year 1878.

The report of the superintendent, herewith submitted, contains a carefully prepared exhibit of the condition of the works, together with a full statement of all matters of interest connected with the operation of the same during the past year. His report is so full and clear that we submit it as a part of our own, and you are respectfully referred to it for matters of fact and detail. No complaint on the part of any citizen has reached us during the past year, of the manner in which the affairs of this department have been administered, or of any dereliction of duty on the part of its employees. As in our former report, we again cheerfully accord to Mr. Nathaniel Dennett our testimony to his efficiency and fidelity in the discharge of his duties. We tender to Mr. George A. Kimball, the city engineer, our thanks for his zealous and efficient services. We, in common with our citizens, are indebted to the police force for their promptitude in reporting cases of leakage demanding our attention. The cost of construction to date is \$341,303.07. The debt of construction, it should be understood, by no means comprises all the indebtedness of the city on account of the works. To this should be added a large part of the interest upon their cost, and the expense of maintenance since their construction.

With this brief statement, we now respectfully ask your attention to a brief consideration of the water contract, between our city and Charlestown, specially referred to this Board by the City Council. We are in entire accord with the sentiment expressed in the inaugural address of his Honor the Mayor, that "this is the most important issue before us this year." We have ever appreciated its importance, and from the first have regarded it as a question of

vital interest to our citizens. That we have been faithful in the discharge of the duties which it has devolved upon us, we know : whether our efforts have been in any degree successful is a matter to be determined. Within the two weeks succeeding our first election (1877), a meeting with the presidents of the Chelsea and Everett Water Boards was had for the purpose of concerting measures to secure a modification of the contract.

The whole subject was then new to us, and we, in common with all others, supposed that a modification was the only available mode of relief. During the first year Mayor Belknap and others, at our request, had repeated interviews with the president and other members of the Boston Water Board, and asked for and urged that some equitable modification of the contract might be made. The other Water Boards, co-operating with us, pursued a similar course, and spared no pains to secure the desired result. Our requests and demands were met with fair promises followed by evasions. Our grievances were stated ; the onerous and unjust burdens imposed upon us, under their construction of the contract, were explained ; the equity and justice of our claims were urged. The result was the same, — broken promises, and nothing more. On the 6th of November last, the representatives of the different Water Boards met at the office of the Boston Water Board, and a conference was had, the result of which was a promise on the part of the Boston Water Board to make us a proposition within two weeks from that time. This was postponed from time to time, until, after repeated solicitations, a meeting was appointed for that purpose, to be held at their office on the 9th of the present month. On the morning of that day our counsel received a communication from them, indefinitely postponing the meeting. No reasons therefor were assigned, no explanation made. We have never received from the Boston Water Board any proposition for an adjustment, although, for a long time, we had every assurance that such an event was about to transpire. The nearest approach to a proposition ever made was in an interview between our counsel and the president of the Boston Water Board, in which the latter stated that his Board had informally considered the matter, and would, he thought, recommend that we be allowed an additional drawback of five and perhaps ten per cent ; but as had been previously stated to the president of this Board, they would not permit Somerville to collect her own water rates, nor would they entertain the idea of a new contract.

The allowance of ten per cent upon our water rates would give Somerville about \$5,000 and Boston more than twice that amount, — an arrangement, as will be seen more fully hereafter, by no means conducive to the interests of Somerville. It certainly would have been injudicious for us to make a proposition to Boston, under such circumstances, and we never have done so. We have never made any proposition, informal or official, *based upon meter rates* or otherwise, and never intended so to do until we had received one from the Water Board of Boston.

It was for a long time supposed that the power to dictate terms rested with Boston: we now affirm, without any misgivings, that Somerville has not only the right, but the power, under the contract, to compel Boston to submit the question of compensation for our water supply, and all matters therewith connected, to the arbitration of three disinterested persons. It remains for Somerville alone to determine whether she will longer submit to the dictation and temporizing policy of her sister city. On the 23d of July, 1878, the following order was passed by the Board of Aldermen of Somerville, and on the 24th of the same month was passed in concurrence, by the Common Council.

“Ordered, That the contract of September 21st, 1868, with Charlestown, for supplying Somerville with water, be referred to the Water Board, with authority to take such measures as they may deem expedient to secure an equitable adjustment or reform of said contract.”

In pursuance of the authority thus given, the Board instructed the president to employ counsel, and take in charge the matter thus committed to them.

The president at once entered upon his duties, counsel was employed, and the matter placed in his hands, with instructions to report as early as practicable upon the expediency of applying to the courts for an adjudication as to the validity of the contract.

After a careful examination of the law, and the facts applicable to the case, counsel reported that it was inexpedient to litigate the matter in the courts, as Somerville had a better remedy under the provisions of the contract itself. We deem it, gentlemen, incumbent upon us, at the present time, both in justice to ourselves, and to you, as the representatives of the tax-payers of Somerville, to lay before you, as briefly as we may, the conclusions arrived at by us and our reasons therefor.

The circumstances under which the contract was made are, in brief, as follows: Somerville asked of Charlestown the privilege of

taking water from the Mystic Water Works, for the supply of the city. This was granted, and a contract entered into by which Charlestown was to appropriate the greater portion of the water rates of Somerville, until the indebtedness incurred by Charlestown for the construction of the water works should be extinguished.

The first question to be considered is, What "Water Works" are here contemplated? Do they include the works of distribution and service in the city of Charlestown? Do they include those also of any other towns and cities which Charlestown might construct in connection with the main works? If they include one, they include all. Did either of the parties to the contract so understand it? We answer emphatically, No. The contemporaneous circumstances, the statements of the parties, at the time and since, and the injustice and wrong which must inevitably result from any other interpretation, are conclusive proof of the truth of the answer.

The contracting board, on the part of Somerville, consisted of gentlemen of intelligence and sagacity, who had the interests of Somerville in charge, and it is illiberal and unjust to impute to them an intent reconcilable only with lack of intelligence or breach of faith.

The law construes contracts reasonably. It recognizes no forced or unnatural construction; and if the term "Water Works" is susceptible of two interpretations, the one will be adopted most in accordance with justice and equity. Charters for water supplies are not granted for speculative purposes. They are purely sanitary measures, enacted for the purpose of supplying the people with pure water at the lowest rates. The charters themselves provide for the protection of other parties. In some instances the terms of compensation are defined, and in all cases equity is the governing principle.

Under the provisions of her charter, Charlestown might lay and maintain the distribution and service pipes in Somerville, in which case she was forbidden charging the inhabitants of Somerville more for water rates than she did the inhabitants of her own city. Charlestown having constructed her main water works could, with great propriety, demand that Somerville or any other city, desiring their use, should contribute equitably towards the payment of the indebtedness incurred therefor, and we respectfully submit that the "Water Works" thus referred to will admit of but one meaning. That they mean, simply and only, the main works,—the works

used in common by the parties, the works alone in which Somerville could have any interest, and the works from which other towns and cities draw in common their supplies.

Having thus briefly considered what the "Water Works" referred to in the contract are, we ask your attention to the question of compensation for our water supply.

As we have before suggested, it is the policy of the law in this Commonwealth that, as far as practicable, pure water should be within the reach of all; and it is not in accordance with its spirit to permit a corporation whose main works run through a sparsely settled district, to charge exorbitantly for its water supply, and prices must not be excessive or prohibitory, but just and equitable under all the circumstances of the case. Sparsely settled towns and cities cannot afford to pay the same prices for their water supply as more densely populated cities, for the reason that their distribution works must of necessity be more expensive in proportion to the amount of rates received. Somerville, with her forty-five miles of distribution pipes, realizes less than one half the amount from her water rates that Charlestown realizes with her twenty-nine miles.

Again, Somerville should not pay the same *pro rata* prices for her supply, as Charlestown, for the reason that Charlestown has advantages connected with her supply that Somerville has not. In case of scarcity of water, Charlestown must be first supplied, — Somerville must wait until it rains; Charlestown has the power to construct the main works in such manner as to be most conducive to her convenience and interest. If Boston wants a new force main, for the accommodation of her East Boston citizens, it is constructed, and Somerville must contribute to the payment thereof. If the times are hard, and a \$100,000 sewer is to be built, the city council of Boston passes an order that none but her own citizens shall be employed upon the works, although Somerville must help pay for it. Taking into account the extra privilege merely, which Charlestown enjoys, it would seem but reasonable that she should contribute more liberally for her supplies than others less favored. In support of our views upon this point, we cite the analogous case of Salem and Beverly, determined in 1876, by commissioners appointed by the Supreme Court. The commission consisted of gentlemen eminent in the law, of high standing, and qualified in every respect for the position. Salem had constructed water works in connection with Wenham Pond. Beverly desired the use of those works for her own supply. The only question in contro-

versy was that of compensation. To state the case briefly, Salem proposed that Beverly should pay as compensation the actual cost of pumping the water used by Beverly and also pay such proportion of the interest, at six per cent, upon the cost of the works used in common by the parties as the water rates of Beverly were to those of Salem. This principle of determining the compensation was adopted by the commission, and an award in accordance with it was made by the commissisners and is now in force. It will be perceived that, in this case, no part of the expense of maintenance was laid upon Beverly. No allowance was made for interest upon expenditures while the works were in process of construction. No allowance was made for furnishing capital, for loss of head of water, or for depreciation and wear and tear. The rule here laid down is simple and at once commends itself to our minds as just and equitable; we shall therefore adopt it, in determining the rate of compensation which Somerville should pay for her water supply.

Having decided upon the question as to what the "Water Works" referred to in the contract are, and the rule of compensation for the water supply, we will next consider what portion of the water rates should be appropriated by Charlestown to the extinguishment of the debt for construction.

We submit that Charlestown, after deducting from the water rates in her hands a reasonable sum as compensation for the water supply, should appropriate the remainder to the extinguishment of the debt. We cannot conceive that a compliance with the contract, under its most liberal construction, will admit of any other possible course. In fact, the justness of this proposition we regard as too self-evident for comment.

This rule or method, however, to be just, must be uniform, and must apply to all parties using the works in common. Charlestown must deduct only a *pro rata* sum from her water rates, and appropriate the balance in the same manner. What is fair for Somerville is fair for Charlestown. If, by reason of superior privileges, the water supply of Charlestown is of more value than that of Somerville, and costs more, as it should, it is but equitable that the excess of cost should be borne by Charlestown alone; otherwise Somerville will contribute more for her supply in proportion to the water rates than Charlestown. To illustrate, suppose the water rates of Somerville and Charlestown are equal in amount, and 20 per cent is deducted from Somerville's water rates for her supply, and 30 per cent from Charlestown as the cost of her supply,

it will be seen that Somerville contributes 80 per cent, and Charlestown only 70 per cent of their respective water rates towards the extinguishment of the debt of construction. ' Each party should contribute in the proportion that its water rates are to the aggregate rates of all parties using the works in common.

If the whole cost of pumping, and the interest upon the cost of the " Water Works " accruing while used by the parties, are deducted from the total amount of water rates minus the drawbacks, the remainder will be the exact amount to be appropriated to the extinguishment of the debt for construction, in which case each party will pay for its own supply, and contribute its proportionate share towards the payment of said debt. The law presumes that Charlestown has appropriated the water rates, in accordance with the true intent and meaning of the contract, and no complicated method of keeping accounts will avail to the contrary. By the provisions of the contract, Somerville and the parties having similar contracts are entitled to certain drawbacks for the water rates collected by Charlestown to defray their expenses of distribution. The method of determining the drawbacks is so ingeniously devised, that when applied to Charlestown she receives within a fraction fifty per cent more, from the same amount of water rates, than Somerville and Chelsea combined.

In our statement of accounts between Somerville and Charlestown, we propose, to save any question, to allow Charlestown the full amount of drawbacks, according to the letter of the contract. These amount in the aggregate to the sum of \$293,288.28, more than four times the amount received by Somerville.

We now solicit your attention to the Construction Account.

The books of the Charlestown and Boston Water Boards have been so kept that it is morally impossible for any person, upon an inspection of their accounts, to determine accurately the cost of the main works. The difficulty arises from the fact that the accounts of the main and city works are intermingled and confused. It would require a tribunal with authority to examine parties and papers to determine with precision the facts.

We have carefully examined the accounts as submitted in their reports, and collated the various items therein set forth, and as the result of our examination we now state unhesitatingly that the sum of \$1,000,000 is in excess of the entire cost of the construction of the Water Works, prior to May 1, 1878.

We find in their report for 1871 their construction account stated, and as they term it *classified*.

This account, which includes the cost of the "new lines supply main," fixes the whole cost of construction up to Jan. 1, 1872, at the sum of \$1,356,175.15. This includes the entire cost of the "Water Works," Charlestown city distribution and service works, and a portion of the distribution and other works of Somerville, Medford, and Chelsea. We shall therefore, in our computation of the accounts, adopt the liberal estimate of \$1,000,000 as the cost of the "Water Works" up to May 1, 1878, the close of their last fiscal year. We cannot with our present facilities determine, except by a general estimate, the relative standing of the parties on the first day of January, 1869, three months and nine days after making the contract.

The accounts are made up for the entire year, and as nearly as we can determine upon a general average, we are of the opinion that the relative standing of the parties was about the same, there being no appreciable difference either way.

We shall, therefore, make Jan. 1, 1869, our starting point, and reckon therefrom.

The process of computation, as already foreshadowed, is as follows:—

We deduct from the aggregate amount of receipts from water rates *each year*,

First.—The drawback to be allowed Charlestown according to the formula set forth in the contract.

Second.—The amount of compensation for the entire supply to parties using the "Water Works" in common. The remainder we apply each year to the extinguishment of the debt for construction.

By the yearly application of this process, it will be perceived that as the debt is reduced, in the same proportion the interest is reduced, and as the payment of interest constitutes a part of the compensation, that also must be correspondingly reduced. It certainly would not be accepted as sound doctrine to require us to pay for the *use* of the works after we had paid our proportional part of their *cost*.

We deem it unnecessary in this report to enumerate in detail the amounts of compensation for the water supply during the period referred to. We give to you the result of our computation, and we find that the compensation for the entire supply of water, to all

parties, from Jan. 1, 1869, to May 1, 1878, amounts to the sum of \$649,864.82.

The receipts from water rates, from Jan. 1, 1869, to May 1, 1878, inclusive, are as follows : —

From Charlestown, gross	\$970,317 07
“ E. Boston, net	426,946 79
“ Chelsea, “	326,991 16
“ Somerville, “	264,004 46
“ Everett, “	27,212 65
	<hr/>
	\$2,015,472 13
	<hr/>

The account fully stated is as follows : —

MYSTIC WATER BOARD.

Dr.

To receipts from water rates	\$2,015,472 13
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Cr.

By cost of construction	\$1,000,000 00
“ compensation for water supply	649,864 82
“ paid to Charlestown as drawbacks	293,288 28
	<hr/>
	1,943,153 10
Surplus on hand and unappropriated	<hr/> \$72,319 03 <hr/>

This statement, which we do not pretend is exact, as it is made up in part by estimate, is sufficiently liberal towards Boston, the party in interest, to warrant the assertion that the indebtedness contemplated in the contract has been extinguished, and that we are, if unable to agree upon the terms for a future water supply, entitled to the arbitration of commissioners. We want no modification of the contract: we want the collection of our own water rates; we want the compensation for our future water supply determined and the status of Somerville in this matter fixed. When these events transpire, our works will be self-sustaining and a surplus also afforded for a sinking fund. The Mystic Water Works, up to the date of our contract, were never self-sustaining; and the Boston Water

Board now modestly asks us and "the adjacent towns" to pay the deficit thereby occasioned. They ask us to pay the interest upon the cost of their main works, for a period of six years prior to our connection with them. They ask us to pay the cost of Charlestown's distribution and service works and their maintenance, and fourteen years' interest upon the whole. They ask us to pay all their water debt, principal and interest, and in the mean time to let the debt incurred for the construction and maintenance of our own works accumulate, and they very courteously inform us that, after they have perfected the distribution, and furnished every sink, bath-room, and water-closet in the Charlestown District with service pipe, and all paid for from the common fund, they will then inform us upon what terms they will furnish our future water supply. The Boston Water Board affect to believe that the contract enjoins such absurd obligations upon us. If they do in truth entertain such an idea, we beg leave to say that the submission of the matter to a commission of three disinterested men will quickly dispel the illusion. During the present fiscal year a sewer in connection with the works has been constructed, at a cost, as we are informed, of \$103,000, and a new force main has been built at a cost of \$28,000, both of which, we have no doubt, should be charged to construction. Assuming that the receipts of the present year are the same as those of the last, viz., \$270,000, the cost incurred for these works is already paid and a balance of the present year's receipts unappropriated. In the contract is this provision, "that if any arrangement shall hereafter be made for a supply of water to any town or city, upon terms deemed more favorable to them, the town of Somerville shall be entitled to be placed upon equal footing."

We have procured from the Middlesex Registry of Deeds a copy of an agreement, dated Oct. 1, 1869, between Charlestown and Boston, for the water supply of East Boston, in which it is agreed that Boston may collect her own water rates, and receive therefor, from the rates collected, the annual sum of \$2,500, which privilege she has enjoyed for a period of eight years. It would be a great convenience to the citizens of Somerville to pay their water rates at home, and the present mode of collections has ever been regarded as a grievance. The refusal to permit Somerville to collect her own rates, and allow her a sum therefor corresponding with that of Boston, is clearly a violation of the contract. It will not

be expected that in a report of this kind we should present all the facts and considerations bearing upon the subject matter of the contract. The views and reasons therefor, which we have herewith submitted, will, we believe, satisfy you of the correctness of our position, and also as to the course to be pursued in the future. We have procured and examined the reports of every Water Board in this State, and many in other States. We have availed ourselves of every source of information within our reach, and if the result of our efforts shall prove of advantage to the city we shall be satisfied.

This matter of the contract has rendered our labors, especially during the last six months, unusually arduous, but we beg leave to say that our services, although gratuitous, have been fully and cheerfully rendered.

The president, in retiring from the Water Board, begs leave to tender to the City Council his thanks for the courtesy and consideration he has ever received at their hands.

All of which is respectfully submitted

C. G. ROWELL.
EDWIN S. CONANT.
A. R. COOLIDGE.
EDWARD FOOTE.
JOSEPH A CHABUT.

SUPERINTENDENT'S REPORT.

To the Somerville Mystic Water Board :

GENTLEMEN, — The Annual Report of the Superintendent of the Somerville Mystic Water Works is respectfully submitted, comprising a statement of all work performed under my direction from Dec. 31, 1877, to Dec. 31, 1878.

Accompanying this report will be found an inventory of the stock, furniture, and tools belonging to the Water Works.

WATER PIPE LAID, GATES AND HYDRANTS SET IN 1878.

LOCATION.	PIPE LAID.					GATES SET.				Hydrants Set.
	8-in.	6-in.	4-in.	3-in.	2½-in.	8-in.	6-in.	3-in.	2½-in.	
*John P. Squire & Co.	440	980	.	.	.	1	3	.	.	3
Newton Street . . . . .	.	6	.	.	.	.	.	.	.	.
Emerson Street . . . . .	.	.	18	.	.	.	.	1	.	.
Fountain Avenue . . . . .	.	.	30	.	.	.	.	1	.	.
Villa Avenue . . . . .	.	.	.	18	.	.	.	1	.	.
Fremont Street . . . . .	.	.	.	.	270	.	.	.	.	.
Totals	440	986	48	18	270	1	3	3	2	3

DISTRIBUTING MAINS.

The distributing mains have been extended during the year 1,762 feet. For the better protection of Squire's pork-packing establishment, at their request, 440 feet of eight-inch and 980 feet of six-inch pipe were made and laid from the eight-inch dead end on Medford Street near the Cambridge line, to the six-inch main in Somerville Avenue, near the Fitchburg Railroad crossing. Two hundred feet of the above six-inch pipe were used in connecting their large reservoir with the Somerville Avenue main. One six-inch gate

* Cost of manufacture and laying paid by John P. Squire & Co.

was set in Somerville Avenue upon the pipe leading to the reservoir, one six-inch gate upon this pipe at the reservoir; also one six-inch gate in Somerville Avenue upon the new connecting main, and one eight-inch gate in Medford Street upon the new main. Three large Holyoke hydrants were set in the yard and connected with this main. The expense of this connection, which amounted to \$1,725.85, was paid by John P. Squires & Co.

There were forty-one breaks upon mains, caused as follows: —

By rust	26
By defective pipe	8
By settling of earth	3
By picks	4

I would especially call your attention to the condition of the pipe in the following streets, no less than twenty-one breaks having occurred during the past year upon these pipes, and when uncovered the pipe has always been found to be in a perishing condition.

Cross Street, from Pearl to Broadway	1,150 feet
Cutter Street, from Webster to Broadway	900 “
Franklin Street, from Perkins to Broadway	625 “
Ellsworth Street, from Cross to Glen	300 “
Mt. Vernon Street, from Perkins to Broadway	600 “

Mt. Pleasant Street, which was referred to in my last report, is constantly and rapidly growing worse, and in my judgment, its repair cannot be delayed beyond another season.

SERVICES.

The whole number of services laid for families and other purposes was 93. Total length of pipe used, 3,969 feet; of feet trenching, 4,248. Average cost of each service was \$19.71. Fifty-nine breaks have occurred during the past year, and were caused as follows: —

By defective soldering, 27; by broken lead connections, 16; by defective couplings, 7; by laying of drains, 5; by freezing, 4.

Eight services were stopped by fish. Twenty-one corporations, which had become stopped by rust, were retapped. Thirteen services on yard hydrants were repaired. Forty cast-iron boxes have been substituted for decayed wooden ones.

STAND PIPES FOR WATERING STREETS.

Two have been set, one on Broadway, opposite the Public Park, and one on Somerville Avenue, near Merriam Street. Repairs have been made upon seven, at an expense of \$81.30. The number now in use is 17.

DRINKING-FOUNTAINS.

By order of the Committee on Public Property, three small fountains have been set, one in Davis Square, near Clarendon Block, one in Union Square, and one on the Broadway Public Park, making the number now in use 9.

The large fountain set in Davis Square in 1877 has been in constant use during the severest weather.

STOP-GATES.

Nine stop-gates, located as follows, were set:—

One eight-inch on Medford Street, near Cambridge line; one six-inch on Somerville Avenue, near Fitchburg Railroad; one six-inch on Somerville Avenue, near Franklin Court; one six-inch on land of John P. Squire & Co., at reservoir; one three-inch on Fountain Avenue, for blow off; one three-inch on corner of Newton and Emerson Streets, for blow off; one three-inch on Villa Avenue at Elm Court, for blow off; two two and one half inch on Fremont Street.

Repairs upon stop-gates have been made as follows: 24 have been repacked, new nuts have been attached to the spindle of 18 in order to obtain a uniform size throughout the city, 11 boxes have been replaced and 10 have been raised to the present grade of the street. The wooden boxes about many of the gates are badly decayed, and it will be necessary to change a large number during the coming season. There are 373 now in use.

HYDRANTS.

The following repairs have been made upon hydrants: new valves and gaskets 15, new rods 7, new frost jackets 9, new washers 8, new bolts and nuts 5, new caps 2, new standard pot 1, waste repaired 12, flush hydrants packed with hay 18. One flush hydrant has been discontinued. Repairs to the amount \$241.52 have been made and charged to the Fire Department. All the hydrants have been examined and oiled and are now in good order. The total number now in use is 269.

STOCK ACCOUNT JAN. 1, 1879.

MATERIALS ON HAND AT COST.

PIPE LINED.

73 feet 12 in. at	\$1 00	\$73 00
13 " 10 "	80	10 40
105 " 8 "	55	57 75
244 " 6 "	38	92 72
210 " 4 "	25	52 50

 \$286 37

PIPE NOT LINED.

203 feet 10 in. at	\$0 50	\$101 50
280 " 8 "	35	98 00
210 " 6 "	18	37 80

 237 30

SLEEVES ON HAND.

6 feet 12 in. at	\$0 15	\$0 90
8 " 10 "	15	1 20
40 " 8 "	15	6 00
80 " 6 "	15	12 00
150 " 4 "	15	22 50

 42 60

GATES ON HAND.

2 feet 4 in. at	\$30 60
2 " 3 "	25 20

 55 80

SHEET-IRON BRANCHES LINED.

8 double 4 on 6 branches	\$18 00
2 " 4 " 4 "	4 20
3 single 4 " 6 "	6 30
2 " 6 " 6 "	4 60
2 " 3 " 4 "	4 00
1 " 3 " 6 "	2 10

 39 20

Amount carried forward,

 \$661 27

Amount brought forward,

\$661 27

CAST-IRON PIPE.

16 feet 8 in., 800 lbs. at	\$18 00
15 " 6 in., 500 lbs. at	11 25
12 " 4 in., 270 lbs. at	6 07
1 " 4 in., $\frac{1}{4}$ Turn, 55 lbs.	1 65
1 " 4 in. special casting	3 60
1 " 4 in. and 1 6 in. sleeves, 66 lbs.	1 98

42 55

SHEET-IRON ON HAND.

1 lot assorted sizes,	\$642 20
1 large gate cover,	3 00
1 " frame,	3 50
10 small gate covers,	12 50

661 20

CAST-IRON BRANCHES LINED.

4 double 6 on 8 branches,	\$28 00
4 " 6 on 6 "	24 00
3 " 4 on 6 "	12 00
2 " 4 on 4 "	7 50
2 single 6 on 8 "	9 00
1 " 4 on 8 "	4 00
2 " 6 on 6 "	9 00

93 50

HYDRANTS ON HAND.

2 New Haven hydrants,	\$90 00
4 flush hydrants,	20 00
3 Bartholomew hydrants,	9 00
7 flush hydrant covers,	38 50
2 pieces hose for stand pipe,	5 00
16 stand-pipe couplings,	24 00

186 50

SUNDRY MATERIALS.

250 feet boards,	\$6 50
24 bbls. cement,	31 20
15 loads sand,	13 50
20 lbs. oakum,	1 20
$\frac{1}{2}$ ton stove coal,	3 10

Amounts carried forward,

\$55 50

\$1,645 02

<i>Amounts brought forward,</i>	\$55 50	\$1,645 02
Winding rope,	3 00	
150 lbs. nails,	6 00	
14 yds. enamelled cloth,	7 00	
6 yds. cotton duck,	48	
120 lbs. rivets,	12 00	
4 hydrant valves,	3 00	
6 hydrant caps,	1 28	
11 lbs. manilla rope,	1 60	
1 iron bound block,	1 25	
17 rubber gaskets,	7 00	
1 bbl. tar,	5 00	
1 bbl. oil,	5 00	
50 feet fuse,	1 00	
3 paint brushes,	1 50	
4 grouting horses,	16 00	
10 oil cans,	6 00	
4 hydrant horses,	2 00	
40 bushels charcoal,	16 00	
3 new hydrant casings,	15 00	
1 sledge handle, 1 qt. measure,	43	
1 doz. flat files,	6 00	
4 stand pipe collars,	2 00	
2 lbs. hemp packing,	1 00	
$\frac{1}{2}$ gal. turpentine,	20	
3 lantern boxes,	2 25	
$\frac{1}{2}$ ball marline,	75	
1 pr. Fairbanks scales,	10 00	
1 seven-inch gong,	4 00	
12 service box covers,	1 80	
	<hr/>	194 04

TOOLS FOR WATER WORKS.

1 lining stand and fixtures,	\$25 00	
1 punching machine,	250 00	
1 rolling machine,	200 00	
6 mandrels,	90 00	
3 mandrel frames,	10 00	
4 sets rollers,	45 00	
<i>Amounts carried forward,</i>	<hr/> \$620 00	<hr/> \$1,839 06

<i>Amounts brought forward,</i>	\$620 00	\$1,839 06
6 pr. clamps and rings,	17 00	
5 rivet sets,	1 50	
1 wire gauge,	1 25	
5 pr. snips,	5 50	
1 mallet,	25	
2 pairs bench shears,	5 00	
2 large sq. lanterns,	7 00	
2 derricks and tackles,	18 00	
100 ft. hand hose,	8 00	
200 ft. hydrant hose,	40 00	
2 saws, 1 bit stock and bits,	3 00	
1 jack plane,	75	
1 oil stone,	50	
11 drills,	22 00	
3 spoons for blasting,	1 00	
1 reflector lantern,	2 00	
9 striking hammers,	14 50	
5 hydrant wrenches,	4 00	
2 packing box wrenches,	4 25	
1 hatchet,	25	
1 carpenter bench,	3 00	
5 cold chisels,	1 00	
4 tool boxes,	24 00	
3 pr. rubber mits,	2 70	
2 sledge hammers,	5 00	
3 crowbars,	5 00	
5 frost wedges,	8 00	
2 sand screens,	5 00	
2 flush hydrant wrenches,	4 00	
8 gate “	18 00	
4 mending knives,	1 00	
12 water pails,	3 00	
4 “ tubs,	2 50	
1 large water tank,	15 00	
4 mortar boxes,	16 00	
2 “ hods,	1 00	
3 large tool boxes,	17 00	
1 wheelbarrow,	4 00	
<i>Amounts carried forward,</i>	<hr/> \$910 95	<hr/> \$1,839 06

<i>Amounts brought forward,</i>	\$901 95	\$1,839 06
36 picks,	36 00	
2 kettles.	1 50	
2 grindstones,	18 00	
48 shovels at 60c.	24 00	
2 tape measures,	1 00	
1 cutting bench,	2 50	
2 pr. rubber boots,	4 00	
1 pipe cradle,	1 00	
1 " vise,	5 00	
1 bench "	15 00	
1 common vise,	10 00	
1 farmer's furnace,	8 00	
1 pr. hydrant tongs,	30	
1 branding iron (S. W. W.)	30	
1 improved tarring tank,	75 00	
2 step ladders,	6 00	
2 ratchet and drills,	22 00	
1 set calking irons,	1 00	
4 powder cans.	1 00	
12 lbs. gunpowder,	3 00	
5 punches,	50	
1 Baxter wrench,	1 25	
1 pr. hose pliers,	75	
1 10-inch bevel square,	1 25	
12 flat drills,	3 00	
3 pr. flat tongs,	2 25	
3 oilers and 2 dippers,	2 00	
2 riveting hammers,	2 50	
1 rake,	75	
2 hoes,	2 00	
3 snow shovels,	2 25	
5 rammers,	7 50	
2 ice chisels,	3 00	
1 claw hammer,	75	
Patterns and core boxes for cast-iron		
branches,	100 00	
1 set patterns for mandrels,	50 00	
2 tin funnels,	1 00	
<i>Amounts carried forward,</i>	<u>\$1,326 30</u>	<u>\$1,839 06</u>

<i>Amount's brought forward,</i>	\$1,326 30	\$1,839 06
3 riveting bars,	80	
2 set stencils, brush, etc.,	3 00	
5 feet hydrant chain,	1 00	
1 small hand saw,	80	
8 monkey wrenches,	5 00	
6 Stillson wrenches,	13 00	
1 wrought-iron ditch pump,	14 00	
1 galvanized iron ditch pump,	5 00	
1 large hydrant wrench,	4 50	
1 doz. lamp chimneys,	96	
1 horse,	150 00	
1 express wagon with top,	150 00	
1 light business wagon,	60 00	
1 heavy express wagon,	125 00	
1 sleigh,	12 00	
1 pung,	15 00	
2 blankets,	5 00	
2 buffalo robes,	15 00	
2 surcingles,	1 00	
23 bundles hay,	54 00	
2 bundles straw,	6 00	
30 bushel oats,	12 00	
1 light business harness,	10 00	
1 new harness,	55 00	
3 horse covers,	6 00	
1 rubber blanket,	2 00	
	<hr/>	2,052 36

OFFICE FURNITURE.

1 large desk,	\$16 00
1 small “	5 00
1 book rack,	3 00
1 water gauge,	25 00
1 frame and curtains for plan,	30 00
6 office chairs,	8 00
1 Stewart stove,	21 00
1 Peerless furnace,	40 00

<i>Amounts carried forward,</i>	\$148 00	\$3,891 42
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<i>Amounts brought forward,</i>	\$148 00	\$3,891 42
1 Somerville directory,	2 00	
1 carpet,	10 00	
		160 00

WATER SERVICE MATERIALS.

74 iron service boxes,	\$111 00
16½ feet 1½ in. lined to 1¼ in.	2 56
620 " 1¼ in. " 1 in.	86 80
48 " 1 in. " ¾ in.	5 76
15 " 1½ in. rubber lined,	2 70
165 " 1 in. "	21 45
855 " ¾ in. "	85 50
522 " ½ in. "	41 76
2 one-inch stop and waste, R. W.	3 00
3 1½ inch shut-off cocks,	5 70
8 ½-inch " "	8 00
44 lbs. cast-iron stop cock handles,	1 76
1 self-closing faucet,	2 80
1 1 inch peet valve,	2 50
1 ¼ " stop and waste R. W.	1 67
1 ¾ " " " "	1 20
3 1 " " " "	1 50
1 2 " valve wheel,	4 50
1 ½ " bib faucet,	50
1 1 " mall. union,	50
11 ½ " spigot stop and waste,	9 35
5 ¾ " " "	8 50
2 ⅝ " " "	1 70
1 1 " T. handle stop and waste,	1 00
1 1 " spigot stop-cock,	1 00
12 1¼ " union swivel nipples,	6 00
10 ½ " solder nipples,	3 60
5 ⅝ " " "	2 00
200 lbs. mall. iron fittings,	40 00
60 brass goosenecks,	30 00
134 union swivel nipples,	26 80
40 lbs old brass,	4 80
4 1¼ inch by 1 inch brass tees,	1 80
3 1 " stop and waste nipple,	5 00

<i>Amounts carried forward,</i>	\$533 31	\$4,051 42
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<i>Amounts brought forward,</i>	\$533 31	\$4,051 42
17 brass solder tap nipples,	6 80	
541 lbs. cast-iron clamps,	32 46	
62 brass clamp screws,	15 50	
2 Ludlow gates on 4-inch clamps,	10 00	
2 " " 6 " "	10 00	
1 3-inch clamp,	2 25	
8 10 "	18 00	
10 12 "	22 50	
1 1½ auger,	1 25	
390 lbs. new lead pipe,	19 50	
8 lead connections,	8 00	
2½ lbs. copper wire,	75	
	<hr/>	680 32

TOOLS FOR WATER SERVICE.

1 press and cones for lining pipe,	\$40 00	
86 service shut-off clamps,	51 60	
230 lbs. old lead,	5 75	
4 force pumps and couplings,	12 00	
131 lbs. fine solder,	15 72	
2 kettles. 2 ladles,	3 10	
7 doz. service locks,	54 60	
2 small hammers,	1 20	
7 pr. pipe tongs,	10 50	
1 new tapping machine, }	14 00	
3 drills for same, }		
2 old tapping machines,	23 00	
1 hack saw,	1 50	
1 hydrant nut wrench,	3 00	
4 large hammers,	3 00	
1 oil can and oiler,	80	
3 soldering irons,	2 85	
2 monkey wrenches,	1 20	
1 shave hook, tap borer, and tenpin,	1 00	
2 bending irons,	50	
1 pr. flat nose plyers,	50	
1 pr. round nose plyers,	50	
3 service wrenches,	2 25	
Lead pipe tacks,	30	
	<hr/>	
<i>Amounts carried forward.</i>	\$248 87	\$4,731 74

<i>Amounts brought forward,</i>	\$248 87	\$4,731 74
2 pipe cutters and wheels,	12 00	
1 pat. pipe wrench,	3 50	
1 pat. chain wrench,	4 50	
1 lead saw,	50	
6 trowels,	6 00	
1 No. 1 die plate and dies,	21 00	
1 " 2 " "	12 00	
1 " 3 " "	9 00	
1 set taps, from 1 in. to $\frac{1}{4}$ in.	3 00	
1 work bench,	12 00	
	<hr/>	332 37
Total,		<hr/> <u>\$5,064 11</u> <hr/>

NATHANIEL DENNETT,
Superintendent.

CONTRACT WITH THE CITY OF CHARLESTOWN UNDER
WHICH SOMERVILLE IS SUPPLIED WITH WATER.

THIS agreement, made this twenty-first day of September, eighteen hundred and sixty-eight, between the city of Charlestown in the county of Middlesex, by the Mystic Water Board, duly authorized of the first part, and the town of Somerville, in said county of Middlesex, by the Mystic Water Committee of Somerville, duly authorized of the second part, witnesseth :

That the said party of the first part, in consideration of the water rents hereinafter to be paid, hereby agrees to and with the said party of the second part, that the said party of the first part will furnish the said party of the second part all the water needed by the town of Somerville and its inhabitants during the continuance of this agreement, as hereinafter provided, and that the supply of the same throughout the town shall not be restricted unless the source should prove inadequate to exceed the requirements of the cities of Charlestown and Chelsea.

And the said party of the first part further agrees to collect all the water rents, which may accrue for the use of the water under this agreement, in said town of Somerville, free from any expense to the party of the second part, and to provide for the necessary superintendence and ordinary care of the pipes laid for distribution and service in said town, and of the hydrants, stop-gates, and meters therein ; provided that the sum to be expended by said party of the first part for repairs upon said pipes, hydrants, stop-gates, and meters shall not exceed the sum of one hundred dollars in any one year, and that all repairs thereof in excess of said amount shall be paid by the party of the second part, and it is hereby agreed by the party of the second part that for a period of three years from the letting on the water, the distribution and the service pipes, and the connections therewith shall be guaranteed free from any expense for repairs.

And the said party of the first part further agrees to pay to the said party of the second part the following percentage of water rates collected in the town of Somerville, in such portions thereof

as the pipes and structures are or may be laid by said town in conformity with this agreement or that may hereafter be assumed, viz. : on the annual receipts for water rates up to the amount of \$20,000, fifteen per cent; on the annual amount in excess of \$20,000 and up to \$30,000, twenty per cent; from \$30,000 to \$40,000, twenty-five per cent; from \$40,000 to \$50,000, thirty per cent; and on the amount in excess of \$50,000, forty per cent, payable quarterly in the months of February, May, August, and November of each year.

And the said party of the second part further agrees to lay and maintain all the pipes, stop-gates, meters, hydrants (except those now required by law to be furnished by the city of Charlestown), additional to those already laid and everything connected with the distribution and use of the water within the limits of the town of Somerville free from any expense to the city of Charlestown.

And the said party of the second part further agrees to and with the said party of the first part, that for all the Mystic Lake Water furnished and used by the people of the said town of Somerville or by any person in said town, there shall be paid to said party of the first part, water rents at the same rates and prices as are now or may be charged during the time of this agreement, by the said party of the first part, to the inhabitants of the city of Charlestown, under the same rules and regulations that are or may be established for like use of water in that city, but the party of the second part is not to be responsible in any case for the payment of said water rates, except for water furnished for public use to the town.

And the said party of the second part further agrees to pass and enact the like rules and regulations as to the mode of using water, as are now or may hereafter be in force in the city of Charlestown, with like penalties for their violation, provided such rules and regulations do not conflict with the laws of the Commonwealth.

And it is further agreed that the party of the second part may hereafter raise the water rates in the town of Somerville above those charged by the said city of Charlestown if it shall be lawful for said party of the second part so to do, and in case the water rates in said town of Somerville shall be so raised, the party of the first part shall, for the collection of the said rates, be entitled to five per cent of the excess thereof over the rates established in said city of Charlestown.

And it is further agreed that the town of Somerville shall be privileged to locate as many fire hydrants throughout the town as

it may elect, to be used for fire purposes only, upon the annual payment to the city of Charlestown of the sum of twenty-eight dollars for each three hundred and fifty inhabitants, the payments for 1869 and 1870 to be based upon the population of 1865, and on and after 1871, each year, for every five years upon the preceding semi-decennial census. In computing the amount, the fraction shall not be taken into account, unless it exceeds one half, when the full price will be charged, and it is further understood and agreed that the water supplied for public fountains shall be charged at cost.

It is also understood and agreed that when the city of Charlestown shall have erected and completed, at its own cost, the full number of fire hydrants required by the legislative enactment, whether the same shall be on the line of the aqueduct or not, its obligation shall be deemed to have been fulfilled as completely as if placed upon said line.

It is also agreed that if at any time within two years from the date of this contract the town of Somerville shall desire to purchase the distribution pipes and structures now laid in Somerville at the expense of the city of Charlestown, for the supply of that town, the city of Charlestown will sell them for the sum \$13,000, and the town of Somerville will then be entitled to the percentage of water rates, and the terms and conditions herein agreed will be applicable to the pipes and structures thus purchased.

And it is further understood and agreed that if any arrangement shall hereafter be made for a supply of water, to any other town or city, upon terms deemed more favorable to them, the town of Somerville shall be entitled to be placed upon an equal footing.

And the said party of the second part further agrees to furnish and deliver to the party of the first part a copy of a map of the town of Somerville, showing the streets on which the pipes are laid and the location of all the pipes, hydrants, and stop-gates, and from time to time make additions thereto as new pipes are laid.

And it is further agreed by and between the parties to these presents that this agreement shall continue in force until the debt of Charlestown, which has accrued or may accrue for the construction of the Water Works, shall be extinguished, and until other and different rates are established, as hereinafter provided, and it is further agreed that if at the expiration of this contract the parties shall be unable to agree upon terms for a continuance of a sup-

ply of water, the matter shall be referred to a commission of three disinterested persons, to be mutually agreed upon, and if unable so to agree, then by appointment of the Supreme Judicial Court.

And it is further agreed that if either of said parties shall omit or refuse to perform this contract in all things on their part, then the matter shall be referred to a commission, as before named, by whom an adjustment shall be made and a compensation determined for such violation of this agreement.

In witness whereof the parties to these presents have hereunto set their hands and seals on the day and year first above written.

In presence of

WILLIAM W. PEIRCE.

Mystic Water
Board.

{ EDWARD LAWRENCE,
JAMES DANA,
EVERETT TORREY,
ABEL E. BRIDGE,
THOS. R. B. EDMANDS.

HENRY E. WARNER.

Somerville Mystic
Water Committee.

{ AARON SARGENT.
C. E. RYMES,
R. A. VINAL,
R. E. DEMMON,
CUTLER DOWNER,

FIFTH ANNUAL REPORT
OF THE
CITY ENGINEER OF SOMERVILLE.
1878.

CITY OF SOMERVILLE.

IN BOARD OF MAYOR AND ALDERMEN, Feb. 10, 1879.

Accepted. Referred to the Committee on Printing, with instructions to print the same in the Annual Report of 1878. Sent down for concurrence.

CHARLES E. GILMAN, *Clerk*.

IN COMMON COUNCIL, Feb. 24, 1879.

Concurred in.

DOUGLAS FRAZAR, *Clerk*.

CITY OF SOMERVILLE.

CITY ENGINEER'S OFFICE, Jan. 15, 1879.

To his Honor the Mayor and City Council :

GENTLEMEN, — The City Engineer presents the following Report for the year 1878.

SEWERS.

Seven have been built by the city during the year, as follows : brick, 2,522 feet ; pipe, 4,195.1 feet. In these were built 36 man-holes and 470 inlets. The following table will show the location, cost, assessment, length, size, etc , of each sewer.

TABULAR STATEMENT OF SEWERS BUILT IN 1878.

LOCATION.			CONSTRUCTION.							COST.			
Name of Street.	From	To	Built by	Materials.	Size in Inches	Man-holes.	Inlets.	Average cut.	Length in feet.	Cost per foot.	Total cost	Assessment.	Cost to city.
Bow Street Pl.	Bow Street . .	Northerly . . .	P. & M. Terry . . .	Akron Pipe.	12	2	24	4.6	294.5	\$0 77	\$226 87	\$181 49	\$45 38
¹ Central Street,	Medford Street .	near Vernon St.	Chas. A. Mongan. .	" "	15	4	38	8.2	508.0	1 18	598 18	463 89	134 29
² Craigie Street,	Somerville Ave.	near Summer St.	Edward Fitzgerald .	" "	12	5	96	9.9	1192.0	0 83	993 46	778 81	214 65
Dane Street . .	Washington St.	Fitchburg R. R.	Patrick Terry . . .	Brick . . .	28 X 24	4	58	8.1	786.5	1 29	1,011 48	642 67	368 81
Everett Street .	Brick Yard Lane,	near Webster Av.	Chas. A. Mongan. .	Akron Pipe.	12	2	18	6.3	304.5	0 82	249 22	190 11	59 11
³ Mt. Vernon St.	Perkins Street .	Pearl Street . .	Chas. A. Mongan. .	Portl'd Pipe.	12	2	25	10.1	363.6	1 46	532 75	119 89	412 86
Pearl Street . .	Mt. Vernon St. .	Easterly	Chas. A. Mongan. .	Akron Pipe.	9	0	0	9.9	128.0	0 74	94 72	56 82	37 90
Summit Ave.	Walnut Street .	Westerly . . .	Maurice Buttimer .	Roch'r Pipe.	12	3	11	9.0	423.5	0 92	388 40	296 86	91 54
Thorpe Place .	Highland Ave. .	Southerly . . .	Chas. A. Mongan. .	Akron Pipe.	12	3	37	8.0	422.5	1 01	426 66	329 74	96 92
Vine Street . .	Beacon Street .	n. Somerville Av.	Richard Falvey . .	Brick . . .	28 X 24	5	108	6.6	1369.0	1 48	2,032 86	1,289 17	743 69
Water Street .	South Street . .	Northerly . . .	Edward Fitzgerald .	Cement Pipe.	12	2	12	5.0	195.0	0 73	142 70	110 90	31 80
Webster Ave. .	Concord Ave. . .	Newton Street .	Chas. A. Mongan .	Brick . . .	28 X 24	2	19	9.1	366 5	1 35	494 65	112 32	382 33
Winter Street .	Holland Street .	near Elm Street.	Richard Falvey . .	Akron Pipe.	12	2	24	10.4	363.5	0 87	315 93	248 33	67 60
						36	470		6717 1		\$7,507 89	\$4,821 00	\$2,686 88

¹20 cubic yards of ledge.²3½ cubic yards of ledge.³4½ cubic yards ledge.

Total length of sewers built previous to Jan. 1, 1878.

Total length of sewers built during the year 1878

Total

. 126,950.0 feet.
. 6,717.1 "
. 133,667.1 feet or 25.3 miles.

VENTILATION.

To secure ventilation seven iron and four wooden man-hole covers were removed, and replaced by cast-iron perforated covers; the thirty-six man-holes built in connection with the new sewers were all provided with perforated covers, making the total number of ventilated man-holes forty-seven.

The ventilating flue in the tower of the hose house, corner of Highland Avenue and Grove Street, mentioned in my last report, continues to work satisfactory during all seasons of the year.

SEWER OUTLETS.

The sewer outlets are in the same condition as mentioned in my last report. The culvert on Middlesex Avenue should be rebuilt at a lower grade; as at present constructed, it is a serious obstruction to the Winthrop Avenue sewer.

PRIVATE DRAINS.

One hundred and seventy-three permits were issued for laying private drains; one hundred and sixty-two for new connections, and eleven for repairs.

Three persons were licensed by the mayor and alderman as drain layers. One licensed in 1876 has deceased, making the present number of drain-layers eighteen.

CATCH-BASINS.

Twenty-four catch-basins were constructed during the year, these were built at an average cost of \$54.65; two of the above were built to take the place of old ones that were insufficient and out of repair, and one other to take the place of one abandoned on account of its being located in a proposed driveway.

One catch-basin was rebuilt, and a large number repaired. Twenty-six old and decayed wooden covers were replaced by two cast-iron gratings, fifteen cast-iron covers, and nine new oak covers. Sixteen hundred and fifty-nine loads of deposit were removed from the catch-basins at a cost of fifty-seven and eight tenths cents per load.

DEFECTIVE SEWERS.

The owners of houses on Medford Street, between Jackson Street and Somerville Avenue, have complained several times of their cellars being flooded, caused by the defective sewer. The bottom of this

sewer at the outlet is about one foot higher than the bottom two hundred feet distant, therefore the solid matter is retained in the sewer to the depth of a foot or more and its capacity is diminished nearly one half. The sewer should be rebuilt the present season. The sewer on Cedar Street near Hall Street is in the same condition as in 1877.

CENTRAL HILL PARK.

Granite steps and posts were set on School Street near the Lowell Railroad, from which an asphalt walk was laid to the High School building. A portion of the park near the High School was graded, one hundred and sixty-five shade trees were set, and a hedge planted alongside of the Lowell Railroad.

The cost was as follows:—

Granite steps and foundation,	\$145 25
Grading, sodding and drainage for walk,	149 02
Asphalt paving for walk,	420 32
Grading and filling,	294 52
Shade trees and hedge,	549 50
Total cost,	<u>\$1558 61</u>

HIGHWAYS.

The usual table of street improvements will be found in the report of the Committee on Highways.

SIDEWALKS.

The following table will show the sidewalk improvements during the year:—

Street.	Side.	From	To	Materials.	Approx. length of walk.	Cost.
Adams . .	Both Easterly	Medford	Broadway . .	Gravel and edgestone.	1869.5	\$1156 35
Bow . . .	and Westerly.	Somerville Ave.	Union Square.	Brick and edgestone.	882.0	1137 10
Broadway	Southerly . .	Cutter	Rush	Brick and edgestone.	480.0	819 26
Cedar . .	Westerly . .	Elm	Chestnut. . .	Brick and edgestone.	527.0	627 39
Mossland .	Wes'erly . .	Somerville Ave.	Elm	Brick and edgestone.	395.0	441 42
Summer .	Southerly . .	Wesley Square .	Church . . .	Brick and edgestone.	605.0	731 51
Total . .	. . . . .	. . . . .	. . . . .	. . . . .	4758 5	\$4913 03

The city has assessed one half of the cost of the above-named sidewalks on the abutters.

SURVEY OF STREETS.

There was no special appropriation for survey of streets. Considerable has been accomplished towards completing surveys commenced in 1877. Large maps of several sections of the city have been commenced and the notes plotted thereon.

The following table will show the stone bounds set during the year.

Franklin Street.	West side at angle near Oliver Street.
Highland Avenue.	South side at east side of Vinal Avenue.
“	South side at west side of Putnam Street.
“	South side at east side of Prescott Street.
Summer Street.	South side at angle near Laurel Street.
“	South side at west side of School Street.
“	North side at east side of School Street.
“	North side at east side of Prescott Street.
“	North side at west side of Putnam Street.
Vernon Street.	North side at west side of Central Street.
Walnut Street.	East side at north side of Bow Street.
Washington Street.	South side at southside of Somerville Ave.

BRIDGES.

The Washington Street Bridge over the Fitchburg Railroad has been improved as follows: the railroad company extended the abutment walls, removed the narrow wooden bridge, and erected a new iron bridge fifty feet in width; the city built a substantial granite retaining wall on the northerly side of the easterly approach, and widened the street to conform to the width of the new bridge.

Surveys were made for widening the Medford Street Bridge over the Lowell Railroad, plans and estimates were submitted by the railroad company's engineer for a new bridge, but on account of the lateness of the season the construction was deferred until another year.

STREET NUMBERING.

Plans have been made for numbering seven streets, and the owners of the houses notified of their numbers.

WATER WORKS.

Books for the location of service pipes were prepared for each ward, and the location of service pipes of which any data could be obtained have been recorded therein.

The map mentioned in my last report has been completed and sent to the office of the superintendent.

ENGINEERING EXPENSES FOR 1878.

Salary of city engineer,	\$2,100 00
Salaries of assistants,	999 36
Drawing instruments, stationery, spikes, tools, etc.,	75 02
	<hr/>
	\$3,174 38
	<hr/>

Respectfully submitted.

GEORGE A. KIMBALL,

City Engineer.

REPORT
OF THE
COMMITTEE ON SEWERS.
1878.

CITY OF SOMERVILLE.

IN BOARD OF ALDERMEN, Dec. 31, 1878.

Accepted and adopted. Referred to next city government, to be printed in Annual Reports for 1878. Sent down for concurrence.

CHARLES E. GILMAN, *Clerk.*

IN COMMON COUNCIL, Dec. 31, 1878.

Concurred in.

DOUGLAS FRAZAR, *Clerk.*

CITY OF SOMERVILLE.

IN COMMITTEE ON SEWERS, Dec. 31, 1878.

To the Honorable the Mayor and the Board of Aldermen :

Your Committee on Sewers have reported upon all business committed to them during the past year, and submit the following statement of the appropriation for sewers and the expenditures therefrom : —

Appropriation for sewers,	\$7,000 00	
Received for entrance fee on Appleton		
Street sewer,	20 00	
Value materials on hand Jan. 1,	159 52	
Total,		\$7,179 52

EXPENDED.

For 13 sewers, as per table		
appended to this report,	\$7,507 88	
Less assessments,	4,821 00	
Cost to city,	\$2,686 88	
For 24 catch-basins (average \$54.65),	1,311 67	
“ retaining wall over culvert at Wash-		
ington Street Bridge,	55 65	
“ strengthening Washington Street		
sewer at Fitchburg R. R. Bridge,	267 15	
“ drain from Beacon Street sewer to		
creek near Vine Street,	43 33	
“ drain from Elm Street sewer to land		
of A. C. Spring,	45 15	
“ drain at Cedar Street near Hall		
Street,	40 00	
“ repairing sewers and drains,	52 52	
“ “ catch-basins,	372 86	
“ “ man-holes,	135 80	
Amounts carried forward,	\$5,011 01	\$7,179 52

<i>Amounts brought forward,</i>	\$5,011 01	\$7,179 52
For raising tops man-holes to new grades of streets,	34 84	
“ raising tops catch-basins to new grades of streets,	20 35	
“ examining sewers,	47 42	
“ “ catch-basins,	3 50	
“ tide-gate in Allen Street sewer,	5 75	
“ connecting culvert with sewer in Union Square,	17 05	
“ sewer gauges,	11 90	
“ ventilating sewers,	23 19	
“ flushing sewers,	47 63	
“ cleaning “	38 75	
“ “ catch-basins,	958 31	
“ “ man-hole dirt-catchers,	235 82	
“ “ ditches,	29 49	
“ clearing mouths catch-basins,	82 88	
“ damage by surface water, Summer Street,	42 56	
“ surveying for drainage system for southerly slope Winter Hill,	13 92	
“ tools and personal property,	106 46	
“ repairing tools and personal prop- erty,	69 33	
“ arranging tools and personal property,	7 02	
“ materials damaged,	5 00	
“ materials on hand as per accom- panying schedule,	212 74	
“ books and stationery,	52 50	
“ abatements of assessments for the year 1877,	67 76	
“ sundry small items,	32 73	
Total,		\$7,177 91
Unexpended balance,		\$1 61

Herewith are submitted a table of sewers built during the year, a schedule of materials on hand, and a schedule of tools and personal property on hand this day.

During the year many of the abutters on Somerville Avenue, west of Union Square, have complained that the sewer in said avenue is inadequate to carry off the storm water. This sewer is three feet in diameter and provides for a drainage area of one hundred and eighty-six acres, in addition to which it is joined at Union Square by the Bow Street sewer, which provides for a drainage area of one hundred acres. This sewer in Somerville Avenue is entirely inadequate to provide for so large an area, viz., two hundred and eighty-six acres, and your committee recommend, as a partial relief, that the Bow Street sewer be disconnected from the Somerville Avenue sewer and extended to the five and one half foot sewer at the easterly side of Union Square.

The Winthrop Avenue sewer discharges on the northerly side of Mystic Avenue into an open ditch, thence through a wooden culvert under Middlesex Avenue to Mystic River. The grade of this sewer is lower than the culvert, thereby preventing the sewer from emptying, and causing an accumulation of solid matter in the sewer to the depth of eighteen inches or more.

Your committee recommend that the culvert under Middlesex Avenue be rebuilt at such grade as will give the sewer a proper means of discharging.

The grade of the Medford Street sewer, between Somerville Avenue and Jackson Street, is imperfect, and your committee have had numerous complaints in relation to it and a petition has been presented to this board asking that the defect be remedied.

Your committee recommend that this sewer be taken up and rebuilt at a proper grade at as early a day as possible.

The catch-basins built the past year, as stated above, have cost on an average \$11.56 each less than those built in 1877.

W. C. TALLMAN,

Chairman Sewer Committee.

OFFICE OF CITY ENGINEER, CITY HALL,
SOMERVILLE, MASS., Dec. 31, 1878.

To the Committee on Sewers :

GENTLEMEN, — The following materials are on hand in the Sewer Department : —

Lumber, 400 feet hemlock boards,	\$5 60
“ 900 feet spruce plank, \$9.00, braces 50,	9 50
Drain Pipe, 102 feet 12-inch Akron at .30,	30 60
“ “ 18 feet 15-inch Akron, at .40	7 20
“ “ 30 feet 10-inch Akron at .25,	7 50
“ “ 62 feet 8-inch Akron at 18,	11 16
“ “ 8 feet 8-inch Akron-Slants at .37,	2 96
“ “ 1 15-in. by 10-in. Y , 3 ft. long, \$1.70,	
1 12-in. by 6-in. Y 2 ft. long, 1.10,	2 80
Drain Pipe, 2 8-in. by 8-in. T s, \$1.52; 2 8-in. by	
8-in. Y s, \$1.52; 2 10-in. by 10-in. Y s, \$2.16,	5 20
Drain Pipe, 4 8-inch curves, long, \$3.20; 2 8 inch	
bends, \$1.60,	4 80
Drain Pipe, 4 8-inch curves, short,	3 15
Stone, 2 loads at .75,	1 50
Man-hole Covers, 4 old covers, \$4.00; 5 new covers,	
\$22.50,	26 50
Catch-Basin Covers, 5 round, at \$2.25, \$11.25; 5	
square at \$4.60, \$23.00,	34 25
Catch-Basin Traps, 3 at \$1.85,	5 55
Sand,	51 47
Catch-Basin Stone,	3 00
	<hr/>
	\$212 74

GEO. A. KIMBALL,
City Engineer.

SOMERVILLE, MASS., Dec. 31, 1878.

To the Committee on Sewers:

GENTLEMEN, — I herewith submit the following schedule of tools and personal property on hand in the Sewer Department: —

Sand-Screen,	\$5 00
Ladder, 14 feet,	1 50
Rubber-Hose, 1 inch, 100 feet,	2 00
“ “ 50 feet, no value.	
Pump,	3 00
Derrick,	3 00
Blocks and 50 feet of rope,	4 00
Blocks and no rope, defective,	50
Rope, $\frac{3}{8}$ inch, 300 feet,	50
“ $1\frac{1}{4}$ inch, 25 feet,	50
Chains and ropes attached, 3,	1 00
Water Dippers, large, 2,	1 50
“ “ 3, no value.	
Boats for cleaning sewers, 3,	2 00
“ “ “ “ 1, new, with wheels,	4 00
Mason's Level, new,	2 25
Manure Puller,	75
Ice Hook,	50
Hatchet, no value.	
Saw,	1 00
Square, iron,	25
Hammer, small, broken, no value.	
Points, 2, Chisels, 3,	1 00
Reducing Coupling for hose,	2 00
Oil Can,	10
Lanterns, 6,	4 00
Wheelbarrow,	5 00
Sewer Scraper,	25
Sand Bucket,	6 00
Shovel, 12-foot handle,	1 50
Shovels, long handle, round point, 4,	2 00
“ short “ “ “ 6,	5 00
“ “ “ round and square, 18,	1 00
“ long handle, round point, 7,	25
Picks, 13,	13 00
Broom, no value.	
<i>Amount carried forward,</i>	<hr/> \$74 35

<i>Amount brought forward,</i>	\$74 35
Rammers, 1 paving, 1 long handle,	4 00
Iron Bars, 4,	6 00
Sledges, 2,	4 00
Mauls, 2,	1 00
Hoes, 2, 1 fair, 1 no value,	25
Spoon, 1,	1 25
Tamping Iron, 3 feet long,	25
Chain, heavy, 12 feet long,	2 00
Water Tubs, 2,	2 00
Mortar Beds, 2, 1 new,	5 00
Tool Chests, 2,	12 00
Brand, "S. S. Dept.,"	1 50
Line, 25 feet,	10
Hammers, small stone, 2,	1 50
Flushing Gate (Somerville Avenue sewer),	30 00
Sewer Forms, 3, 18 in. ; 2, 24 in.,	75
Sewer Half-Rounds, 1, 15 in. ; 1, 18 in. ; 1, 20 in. ; 2, 22 in. ; 1, 28 in. ; 1, 36 in.,	1 00
Centres, 1, 18 in. short ; 1, 15 in. short (each 2½ feet long) ; 1, 15 in. 9 feet ; 2, 18 in. 9 feet,	4 00
Centres, 1. 24 in. 8 feet ; 1, 30 in. 8 feet ; 1, 36 in. 5 feet,	3 00
Rubber Boots, 2 pair at \$3,	6 00
" " 4 pair, no value.	
Hoisting Tubs, 4	3 00
Sewer Pails, 10, iron is worth	25
Sewer Pails, 4, fair,	1 00
Water Pail,	10
12 feet 9 in. Sheet-Iron Pipe,	1 50
3 Lantern-Globes,	50
300 feet old Leather Hose, 100 feet Rubber Hose, no value.	
400 feet Leather Hose, good,	50 00
Canvas,	5 00
	<hr/>
	\$221 30
Sounding Rod, }	10 00
Cement Tester, }	1 00
Rope Ladder, }	1 50
	<hr/>
Total amount,	\$233 80

GEORGE A. KIMBALL,
City Engineer.

Street.	From	To	Materials.	Size in inches.	Man-holes.	Inlets.	Length.	Total cost.	Assessment.	Cost to city.
Bow Street Place	Bow Street	end	Akron pipe	12	2	24	294.5	\$226 87	\$181 49	\$45 38
Central Street	Medford Street . . .	near Vernon Street .	Akron pipe	15	4	38	508.	598 18	463 89	134 29
Craigie Street	Somerville Ave. . .	near Summer St . .	Akron pipe	12	5	96	1192.	993 46	773 81	214 65
Dane Street	Washington Street	Fitchburg R. R. . .	Brick	24 X 28	4	58	786.5	1,011 48	642 67	368 81
Everett Street	Brickyard Lane . .	near Webster Ave. .	Akron pipe	12	2	18	304.5	249 22	190 11	59 11
Mt. Vernon Street . .	Perkins Street . . .	Pearl Street	Portland pipe . . .	12	2	25	363.6	532 75	119 89	412 86
Pearl Street	Mt. Vernon Street	Easterly	Akron pipe	9			128.	94 72	56 82	37 90
Summit Avenue	Walnut Street . . .	near the end	Rochester Pipe . . .	12	3	11	423.5	388 40	296 86	91 54
Thorpe Place	Highland Avenue	near the end	Akron pipe	12	3	37	422.5	426 66	329 74	95 92
Vine Street	Beacon Street . . .	near Somerville Ave.	Brick	24 X 28	5	108	1369.	2,032 86	1,289 17	743 69
Water Street	South Street . . .	Northerly	Cement pipe	12	2	12	195.	142 70	110 90	31 80
Webster Avenue . . .	Concord Avenue . .	Newton Street . . .	Brick	24 X 28	2	19	366.5	494 65	112 32	382 33
Winter Street	Holland Street . . .	near Elm Street . .	Akron pipe	12	2	24	363.5	315 93	248 33	67 60
									6717.1	\$4,821 00
									\$7,507 88	\$2,686 88

DECEMBER 23, 1878.

GEO. A KIMBALL,
City Engineer.

TO THE COMMITTEE ON SEWERS.

REPORT

OF THE

COMMITTEE ON HIGHWAYS,

FOR THE

YEAR 1878.

CITY OF SOMERVILLE.

IN BOARD OF ALDERMEN, Dec. 31, 1878.

Report accepted Referred to the next City Government, with instructions to print in the Annual Report. Sent down for concurrence.

CHARLES E. GILMAN, *Clerk.*

IN COMMON COUNCIL, Dec. 31, 1878.

Concurred in.

DOUGLAS FRAZAR, *Clerk.*

CITY OF SOMERVILLE.

IN COMMITTEE ON HIGHWAYS, Dec. 27, 1878.

To the City Council of the City of Somerville :

The Committee on Highways deem it proper to submit the following as their final report, showing briefly the doings of the year now about to close.

During the early months of the year there was little labor required to be performed upon the highways. The weather was particularly favorable, save one severe snow-storm. Your committee have been extremely fortunate in this respect, as they have been obliged to draw from the appropriation but \$1,100 for the expense of removing ice and snow.

The attention of the Committee on Highways during the current year has been devoted more particularly towards keeping in good repair the streets and avenues of our city already laid out, than with a view of making any permanent or expensive improvements, or the laying out or acceptance of any new streets.

Improvements have, however, been made, involving the expenditure of a small amount of money on some of the principal *unaccepted* streets. This was deemed expedient in cases where there was a considerable amount of travel, as a protection against the liability of accidents.

The bad condition of Washington Street from the Fitchburg Railroad to the Cambridge line, occasioned by the laying of the trunk sewer, together with the promise of the Fitchburg Railroad Company to erect a new bridge at this point fifty feet in width, seemed to justify your committee in the expenditure of a considerable sum of money on this much-needed improvement.

This being the principal thoroughfare from our city to Cambridge, it was thought best to rebuild it in a thorough and substantial manner. The sum of \$3,000, appropriated for the purpose of furnishing employment to the needy poor, was expended upon this street. The entire cost of its construction from the bridge to the

Cambridge line was \$5,600; the material used consisted of 5,320 loads of stone, 1,793 loads of filling, and 734 loads of gravel.

As the city's part of the agreement with the Fitchburg Railroad Company in this improvement, the retaining wall on the east side of the bridge, and also fences for the approaches, have been erected by your committee at a cost of \$2,670.72.

Brick sidewalks have been constructed on Broadway, Cedar Street, Mossland Street, Bow Street, and Summer Street; and edgestones set on both sides of Adams Street, measuring 4,758 running feet at a cost of \$1,913.06, one half of this amount being assessed to abutters.

Your committee have expended from their appropriation; for paving gutters, and the necessary grading incidental to laying the above mentioned sidewalks, which cannot be computed in their cost, or charged to the appropriation for sidewalks; the sum of \$1,998 or forty-two cents per running foot, of new sidewalks laid. As a large portion of the paving-stones used for that purpose during the year were purchased at much less than the market price, this expenditure is smaller than it otherwise would have been.

It is estimated that brick sidewalks cannot be constructed without incurring an expense to the appropriation for highways of fifty cents per running foot, — a sum fully equal to one half the absolute cost of the sidewalks. This too in addition to the expense of constructing the cross-walks which naturally follow.

Thirteen street crossings have been laid and several repaired. 3,400 feet of edgestone has been reset; and 1,365 yards of gutters repaired; and 764 square yards of brick sidewalks relaid.

Your committee take pleasure in reporting that a very satisfactory arrangement was made with the Middlesex Railroad for the extension of their double tracks from the Boston line to Cutter Street; and the removal of the T rail from the north side of the roadway.

The expense incurred by the city in this improvement consisted in paving that portion of the street lying between the two railroad tracks, which has been done with block stones in a substantial manner at a cost of \$1,000.

There is now seventeen feet in width, of paved street, which is hereafter to be maintained and kept in repair by the Horse Railroad Company, free of expense to the city. It is found to be of great advantage and much used for heavy travel.

That portion of Broadway lying north of the railroad tracks has

been entirely rebuilt, and the south side regraded at a small expense, inasmuch as the material taken from the centre of the street, where the tracks are now located, was more than sufficient for that purpose. This important thoroughfare is now in fine condition from the Boston line to Willow Bridge, and will need but a slight outlay for some time to come. That portion lying between Willow Bridge and Curtis Street should have been rebuilt during the present year, and your committee fully intended to undertake it, but it was found that their limited appropriation hardly warranted the expenditure; it will, however, require early attention. In this connection it may be well to call attention to the bad condition of Somerville Avenue from Union Square to the Cambridge line, which should be regraded at an early day.

The condition of Middlesex Avenue has been the occasion of much expense and considerable annoyance to your committee during the year, this avenue having settled to such an extent that during the high tides it is entirely covered and thus rendered extremely dangerous to public travel; considerable expense will have to be incurred for filling it to a proper grade so that tide water will not affect it.

It has been the aim of your committee to conduct its affairs with a view to as economical a management of this department as is consistent with the thorough construction of all the works intrusted to their charge. True economy consists in doing well that which is necessary to be done at all.

Although the expense of some of the improvements may seem large at first, it is the opinion of your committee that it will prove cheaper in the end to the city than it would if their successors are called upon to reconstruct the same within an unreasonably short period of time.

The appropriation for the year has been sufficient to perform the works enumerated, but it should be remembered that your committee have been extremely fortunate in not having large expenditures to make for the removal of snow and ice, which they might well have expected and which if they had occurred would have seriously embarrassed them.

A fortunate state of affairs has also existed at the city stables and no losses of horses have occurred; neither have any extensive repairs in harnesses, carts, or tools been needed.

The great wear and tear of the highways is always going on, and storms of rain and snow often necessitate unexpected expendi-

tures. In this connection it may be well to state that the severe rains of the past season have washed the roads to such an extent as to call for a large outlay of gravel and expensive repairs in the near future.

It is only by persistent effort and work upon *all* the highways that they can be kept in good order and repair; and for this purpose, in the cause of true economy, in the opinion of your committee, the annual appropriation should be generous and sufficient to keep the sidewalks and highways of the whole city in complete repair, and provide for all unforeseen contingencies, which are continually arising.

The following schedule is presented, showing some of the most important items.

SCHEDULE.

Sidewalks constructed of brick, edgestones set, and gutters paved, as follows:—

BROADWAY, west side from Cutter Street to Rush Street, 480 feet.

SUMMER STREET, west side from Wesley Square to Church Street, 605 feet.

BOW STREET, west side from Union Square to Somerville Avenue, 882 feet.

MOSSLAND STREET, northwest side from Somerville Avenue to Elm Street, 395 feet.

CEDAR STREET, northwest side from Elm Street to Chestnut Street, 527 feet.

ADAMS STREET, both sides from Medford Street to Broadway, edgestones and gutters, 1,869.5 feet.

New edgestones set, 4,129; brick sidewalks laid, 2,776 yards.

CROSS-WALKS CONSTRUCTED.

BEACON STREET, at Concord Avenue.

GLEN STREET, at Broadway.

FLINT STREET, at Rush Street.

ADAMS STREET, at Broadway.

CHESTNUT STREET, at Cedar Street.

CEDAR STREET, at Elm Street.

ELM STREET, at Cedar Street.

MOSSLAND STREET, at Elm Street.

SUMMER STREET, at Prescott Street.

SUMMER STREET, at Wesley Square.

BOW STREET, at Walnut Street.

WASHINGTON STREET, at Crescent Street.

BROADWAY, at Lincoln Street.

CROSSINGS RECONSTRUCTED.

Bow Street, Washington Street, two ; Broadway, four.

STREETS REPAIRED.

NAME.	FROM	TO	GRAVELLED.	FEET
Summer	Belmont . . .	Cedar . . .	Gravelled . . .	1,600
Belmont	Summer . . .	Somerv'e Av.	" . . .	1,200
Porter	Summer . . .	"	" . . .	1,200
Spring	Beach	"	" . . .	400
Beach	Howard . . .	"	" . . .	500
Central	Summer . . .	"	" . . .	1,000
School	Highland Ave.	"	" . . .	700
Prescott	Highland Ave.	Summer . .	" . . .	600
Walnut	Grand View A.	"	" . . .	800
Howe	Marshall . .	School . . .	" . . .	450
Medford	Cross	Washington	" . . .	600
Vinal Avenue .	Summit Ave .	Summer . .	Graded	800
Union	Broadway . .	Mystic Av. .	Grav'ed & Mac'd	350
Broadway . . .	Boston Line .	Cutter . . .	Rebuilt	1,460*
Broadway . . .	Boston Line .	Franklin . .	Regraded	1,360†
Newton	Prospect . .	Webster Av.	Grav'ed & Mac'd	500
Mystic Avenue .	Boston Line .	Canal . . .	" . . .	500
Emerson	Newton . . .	Everett . .	Graded	200
Everett	Newton . . .	Webster Av.	"	400
Newbury	Holland . . .	Camb'e Line,	"	1,200
Cameron	Holland . . .	"	"	1,050
Lowell	Medford . .	Vernon . .	"	1,100
Washington . .	Hawkins . .	Camb'e Line,	Rebuilt	2,300

* 23 feet wide north side of R. R. track.

† 29 " " south " " "

CULVERTS.

Newton Street, Russell Street, Holland Street, Cameron Street, Central Street, Newbury Street, Newton Street.

DANGER SIGNALS.

Vine, Mead, and Lowell Streets.

TREES BELONGING TO THE CITY.

Trees on the highways,	3,217
“ “ public grounds,	80
“ “ Central Hill,	197
“ “ Public Park,	377
Permits issued for setting out trees,	20

The committee desire to express their hearty appreciation of the services of the Superintendent of Streets, and of the Clerk of their Committee, for the faithful and satisfactory manner in which they have performed their respective duties.

Respectfully submitted.

JNO. F. COLE,

Chairman Committee on Highways.

Attest:

DOUGLAS FRAZAR, *Clerk.*

ANNUAL REPORT
OF THE
TRUSTEES OF THE PUBLIC LIBRARY.

CITY OF SOMERVILLE.

IN BOARD OF MAYOR AND ALDERMEN, Feb. 17, 1879.

Referred to the Committee on Printing, with instructions to print the same in the Annual Report for 1878, and sent down for concurrence.

CHARLES E. GILMAN, *Clerk.*

IN COMMON COUNCIL, Feb. 17, 1879.

Concurred in.

DOUGLAS FRAZAR, *Clerk.*

THE FREE PUBLIC LIBRARY.

SIXTH ANNUAL REPORT.

GENTLEMEN OF THE CITY COUNCIL, — We have the honor to submit our Sixth Annual Report as trustees of the public library. The year that is passed has been to the library a year of steady growth and prosperity. Not only has the demand for the more popular literature of the day been met, but many valuable books of reference, and elaborate works in special departments of learning, have been added. As a consequence, we have remarked among the daily applicants for books a much larger proportion of advanced readers. You will remember that, in our last report, while admitting the claims of the general reader to be paramount, we expressed the conviction that the specialists in our midst — the ministers, physicians, lawyers, and teachers of the city — have a right in the library, and might rightfully look to it for certain special aids, such, for instance, as are afforded by the standard works of reference and the acknowledged classics in their several departments of inquiry. It gives satisfaction to report that the policy thus foreshadowed has been emphatically indorsed by our leading citizens. Indeed, we were called upon almost immediately to put the principle into operation; and we have abundant evidence that whatever steps your liberality may enable us to take in this direction will not only meet an actual want, but will render a practical, though perhaps an indirect service to the humblest member in the community.

At the beginning of the year Miss H. A. Adams was re-elected librarian. It appears from her annual statement to the Board of Trustees that nearly 1,000 books have been added for the year 1878, making 7,441 now in the possession of the library. That the conduct of the library has been vigilant and orderly is evident enough from the fact that, of the 61,076 given out during the twelvemonth, only four have failed to be recovered. Over a thousand new names have been added to the list of borrowers, and as many as 580 volumes have been given out in a single day. Many

of the books have now been in constant use for six years, and we have been obliged to withdraw, as unfit for further circulation, a larger proportion than during any previous year. These, so far as desirable, have been replaced by new copies.

The Reading Table has been regularly supplied with some twenty-three select periodicals and papers. It is usually thronged with readers, notwithstanding the overcrowding, the constant bustle, and unwholesome air of the apartment. It has been a matter of constant regret that we could not afford better facilities to the increasing class that resorts to the library for literary recreation or research. There is an imperative need of a reading-room in connection with the library, — an apartment separate from the general delivery-room, which can be well lighted and well ventilated, where the general reader may find an agreeable seclusion, and where the inquirer may have ready access to works of reference and ample conveniences for making notes. We should feel it incumbent upon us to press this matter upon your attention with great urgency had not his Honor, the Mayor, so ably forestalled us. You will recall that in his late Address, after a very appreciative notice of the work of the library, he says: “The fact is, that if there is any institution in the city that meets a public want, it is the public library. The room in which it is located is entirely inadequate. It is so crowded during the evenings that not only is it an impossibility for one to examine the valuable and costly books of reference, but inconvenience of selecting books is so great that many go away and give up entirely the object for which they came. It is almost a waste of words to say that a city of the size of our own can well afford to furnish books for its citizens, as well as a suitable place for their delivery; indeed, it would be better to say it cannot afford to refuse such necessities.” In the same connection you will find a recommendation that an extension, one story in height, be immediately built to the east end of the City Hall. Such an addition, he thinks, would afford relief to the library for several years to come, and would not cost over \$1,350. This suggestion appears entirely feasible; and unless a better one is submitted, will receive the hearty indorsement of the trustees of the library. We venture to express the hope that you will see the expediency of moving in this matter at a very early day.

There has not been much in the administration of the library for the past year that calls for special mention. Looking upon such an institution as an important educational force in the community,

we have sought to realize to the utmost its capabilities in this regard. We have come to see more and more the importance of interesting the young in books, and of developing the habit of looking to that source for instruction and the occupation of leisure hours. Accordingly we have been led to discuss various practical measures looking to this end. For instance, it has appeared to us that the teachers of our public schools enjoy exceptional advantages in this regard, and that, inasmuch as education is of necessity so largely self-education, one of the best services they can render their more advanced pupils is to introduce them to the pleasures and opportunities of a good library. These pupils will need not merely to have the library pointed out; they need incitements to enter, and, above all, instruction as to what and how to read. We have, therefore, in preparation a circular in which we venture to express these opinions, and to earnestly invite the active co-operation of teachers. We are persuaded that such co-operation is entirely practical, and that it would be attended by most excellent results.

The following is the financial statement for the year 1878:—

Credit balance from 1877,	\$858 72
Appropriation by City Council,	1,200 00
Amount of dog license money,	1,080 85
Received for catalogues and fines,	224 07
	<hr/>
	\$3,363 64
	<hr/>
Expended for books,	\$1,356 21
“ “ salaries,	1,240 72
“ “ incidentals,	288 65
	<hr/>
	\$2,885 58

Balance to new account, \$478.06.

Respectfully submitted.

W. G. TOUSEY, *President.*

For the Board of Trustees.

ANNUAL REPORT

OF THE

OVERSEERS OF THE POOR,

FOR THE

Year ending Dec. 31, 1878.

CITY OF SOMERVILLE.

IN BOARD OF MAYOR AND ALDERMEN, Feb. 28, 1879.

Accepted. Referred to the Committee on Printing, with instructions to print in the Annual Report. Sent down for concurrence.

CHARLES E. GILMAN, *Clerk.*

IN COMMON COUNCIL, Feb. 28, 1879.

Concurred in.

DOUGLAS FRAZAR, *Clerk.*

CITY OF SOMERVILLE.

To his Honor the Mayor and the City Council:

GENTLEMEN, — We would respectfully submit a brief account of the work of the Board of Overseers of the Poor for the year 1878, a statement of some of the results and a few suggestions in regard to the plans for the future.

The poor generally have been supplied at their homes with food, fuel, and other necessities required to relieve their destitution. To do this requires much time and great care in order to discriminate between the really deserving and those who would feign themselves as such.

To aid us in this matter, all applicants for aid are required to give us a history of themselves by means of a list of questions we have prepared, which we require them to answer, whereby we obtain information in regard to their settlement, cause of destitution, etc. and which will assist us in subsequent investigation of their cases, if at any time deemed necessary.

We are frequently reminded that we are aiding undeserving persons, those in no sense destitute, and in some instances having money in savings banks. In every such instance, upon careful investigation, we have found that our informant and not ourselves had been misinformed. Still doubtless we have assisted some who could have done without the aid, and we would thank any one for information that will help us to better discharge our duties.

ALMSHOUSE.

We have had but one person in the almshouse the past year, and that a woman, an inmate for many years and partially insane.

We would here call your attention to the fact of the necessity of having a place provided for the sick poor. Since of late they will not admit them to the almshouse in Boston, we find it extremely difficult to procure suitable places for them, where they may be made comfortable.

STATE POOR.

The law of the Commonwealth requires the Overseers of the Poor to assist every one found within the city limits in a destitute condition, and permits them to remove to the State Almshouse those who have no settlement in the State.

There is still another law which we believe will better protect our city in providing for this class of poor.

This law requires that the Board of State Charities be notified in every instance, and if they find that there is a chance of the family being able to support themselves in four weeks, the aid granted by the city for that time will be reimbursed by the State.

We have complied with the requirements of the law in such cases as seemed to us it applied, and by this means the expenses in this department have been somewhat diminished.

There is a law that applies to the State sick poor, by which the city is partially reimbursed for aid granted them during the time they are unable to be removed to the State Almshouse.

By the conditions of the law we must give immediate notice to the Board of State Charities. In this notice it is necessary to give the name and residence of the pauper, the name of the disease, and facts tending to show that he has no settlement in the State.

It is highly important, in such cases, that the city physician should immediately notify the secretary of this Board, after having ascertained all necessary facts in regard to the case, that he may comply with the essential requirements of the law.

CITY STORE.

The poor during the past year have been supplied with groceries, provisions, etc., from the city store, which is under the control of the Board.

The goods are purchased at wholesale prices and delivered to the poor at such an advance as will cover the expenses of the salary of the store-keeper, and the cost of transportation of the goods to the store.

As we have no almshouse, we therefore provide for some families who are wholly dependent upon their groceries and provisions.

The principal articles at the store are flour, Indian meal, oat meal, rice, potatoes, beans, salt-fish, herring, corned beef, salt pork, tea, sugar, and kerosene oil. From the above list of articles the poor are supplied by the store-keeper upon the presentation of

orders from the Overseers of the Poor, and with the exception of sugar and tea, supplied with the quantity they require, provided it does not exceed the amount granted in the order.

The Board, believing it economy to purchase good articles, have directed the store-keeper to have regard to quality as well as price.

The goods purchased the past year for the store amount to \$4,675.15. Stock in store Jan. 1, 1878, \$590.34. Store-keeper's salary \$300, total \$5,565.49.

From this amount of goods 4,426 orders have been given out, at an aggregate amount of \$6,266.68. Goods delivered for supply of tramps, \$216.49. Goods in store Jan. 1, 1879, \$112.29. Cash paid city treasurer, \$12.08: making a total of \$6,607.54.

The store has been in operation sufficiently long to show that by careful and judicious management there cannot but result a great saving to the city.

WOOD AND COAL.

In consequence of the numerous and frequent complaints made to us of the delay in filling the orders for coal, the Board, with and by the advice of the City Council, have during the past year erected a shed (adjoining the one built for wood last year) for the storage of coal, whereby we are enabled to deliver under our supervision both wood and coal at the same time, and as we think with a saving in the amount of wood furnished.

The shed built last year for storing, sawing, and splitting wood we consider has been an advantage to the city in a pecuniary point of view, since the tramps and resident applicants for aid have been enabled to saw and split the wood sufficient to supply not only the demands of the poor upon us, but also orders for the schoolhouses and other public buildings, so far as required.

BURIAL GROUND.

Although in previous reports we have called your attention to the importance of having a burial place, we would still continue to remind you of the fact that we are yet without a burial ground. And as we are so frequently called upon to supply this need, it seems to us not only appropriate but exceedingly necessary that our city should possess such a place.

EXPENSES.

The whole expense for the support of the poor the past year has been \$17,495.48. Received from other cities and towns, and

from the State as reimbursements, \$4,942.16: making the net expenses, \$12,553.32.

There are many matters connected with this department over which we have no control. For instance, the bills for the maintenance of the inmates of the insane asylums must be paid, and of this class of persons there has been quite an increase the past year. While the same is true in regard to the expenses of all reformatory institutions.

While it has ever been and will continue to be our aim to keep the expenses of this department as small as is consistent with the obligations that the community owe to those in want, we feel that neither the City Council nor the tax-payers desire us to go beyond the point.

ANSEL LEWIS,
N. HOWE,
HORACE CHAPIN,
Overseers of the Poor.

FIRST ANNUAL REPORT
OF THE
BOARD OF HEALTH
OF THE
CITY OF SOMERVILLE,
FOR THE
Term beginning February 4, and ending December 31,
1878.

CITY OF SOMERVILLE.

IN BOARD OF MAYOR AND ALDERMEN, Feb. 3, 1879.

Referred to the Committee on Printing with instructions to print the same in the Annual Report for 1878. Sent down for concurrence.

CHARLES E. GILMAN, *Clerk*.

IN COMMON COUNCIL, Feb. 3, 1879.

Concurred in.

DOUGLAS FRAZAR, *Clerk*.

CITY OF SOMERVILLE.

OFFICE OF THE BOARD OF HEALTH,
CITY HALL, SOMERVILLE, MASS.,

January 29, 1879.

To the Honorable, the Mayor and the City Council of the City of Somerville:

GENTLEMEN, — In accordance with our duty we submit this, the first annual report of the Board of Health of Somerville, for the term beginning February 4, and ending December 31, 1878.

The following is a copy of the act of the Legislature of 1877, under which this Board exists and acts.

[CHAP. 133.]

AN ACT relating to the Boards of Health in the several Cities of the Commonwealth.

Be it enacted, etc., as follows:

SECTION 1. In each of the several cities of this Commonwealth, except the city of Boston, the mayor and aldermen shall, in the month of January, in the year eighteen hundred and seventy-eight, appoint two persons, not members of the City Council, who together with the city physician, shall constitute the Board of Health of such city. The board so constituted shall enter upon its duties on the first Monday of February then next succeeding. The terms of office of the two appointed members shall be so arranged at the time of their appointment, that the term of one shall expire on the first Monday in February in each year, after the year eighteen hundred and seventy-eight; and the vacancy so created, as well as all vacancies occurring otherwise, shall in each of said cities be filled by the mayor, with the approval of the Board of Aldermen. The members of said Board of Health so appointed shall, in each of said cities, be subject to removal by the mayor for cause; and for their services they shall receive such compensation as the City Council may from time to time determine.

SECT. 2. Each of said Boards of Health shall organize annually by the choice of one of their number as chairman. They may also choose a clerk, not a member of the board, and they may make such rules and regulations for their own government and for the government of all subordinate officers in their department as they may deem expedient.

SECT. 3. The Boards of Health hereby constituted shall have and exercise all the powers vested in, and shall perform all the duties prescribed to city councils or mayors and aldermen as Boards of Health, under the statutes and ordinances now in force in their respective cities, and shall have power to appoint such subordinate officers, agents and assistants, as they may deem necessary, and may fix their compensation and the compensation of the clerk before mentioned; *provided*, that the whole amount of such compensation shall not exceed the sum appropriated therefor by the City Council.

SECT. 4. In each of said cities said Boards of Health shall annually, in the month of January, present to the City Council a report made up to and including the thirty-first day of the preceding December, containing a full and comprehensive statement of the acts of the board during the year, and a review of the sanitary condition of the city; they shall also, whenever the City Council or the standing committee thereof on finance shall so require, send to the auditor of accounts an estimate in detail of the appropriations required by their department during the next financial year.

SECT. 5. Said Boards of Health and the Board of Health of the city of Boston, in addition to the powers conferred upon them by existing statutes, are hereby authorized to prepare and enforce in their respective cities such regulations as they may deem necessary for the safety and health of the people, with reference to house drainage and its connection with public sewers, where such connection is made.

SECT. 6. On the Tuesday next after the first Monday of November next, a meeting of the legal voters of each of the several cities of the Commonwealth shall be duly warned and called by the mayor and aldermen thereof, for the purpose of voting upon the acceptance of this act; and the same shall not take effect in any city unless accepted by a majority of the legal voters present and voting at said meeting. [*Approved April 17, 1877.*]

APPOINTMENT.

The legal voters of Somerville, having accepted the above Act in the manner provided therein, his Honor the Mayor, on the twenty-second day of January, 1878, appointed, and the Board of Aldermen confirmed Charles W. Sawyer as a member of the Board of Health for two years, and George A. Kimball as a member of said board for one year, the city physician, Emory L. White, M. D., being a member *ex officio*.

ORGANIZATION.

On Monday, the 4th day of February, the board met and organized by the choice of Charles W. Sawyer as chairman, and George A. Kimball as clerk.

At a regular meeting held March 6, George A. Kimball resigned the office of clerk, and George I. Vincent was elected to that office.

At a special meeting held March 9, Wm. H. Brine, Houghton Street, was elected Sanitary Inspector.

Our attention has been devoted mainly to the abatement of nuisances, the regulating of offensive trades, and the making and enforcing of rules tending to arrest the spread of dangerous diseases. We have also had supervision of the collecting of ashes and of house-offal, the removal of night-soil, and the issuing of licenses to keep swine and goats and to collect grease.

The remainder of this report consists of the treatment in detail of these items in order as above named, tables showing the rates of mortality in Somerville and other cities and towns, a statement of localities where sewers are especially needed, a comparison of the rates of mortality, the prevalence of dangerous diseases, and the number of nuisances abated in the ten sanitary districts into which the city has been divided, and a statement of the expenses of this department.

Appended to this report is a paper on House Drainage by George A. Kimball, City Engineer, and a member of this board.

NUISANCES.

The following is a classified statement of nuisances abated by our order during the year, arranged by the months in which the complaints were made.

NUISANCES ABATED IN THE YEAR 1878.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cellar damp			1	2	2	5	1	4	4				19
Cesspool defective									1	1			2
“ full				2	5	2	2						11
“ in cellar offensive									1				1
“ not properly covered			1	1	3		5		2	1			13
“ under house offensive,									1				1
“ offensive							1		1				2
Drain stopped up	1												1
“ not trapped			1	2	10		2	1		1			17
“ not properly covered				1									1
“ pipe broken and leaking			1		1				1	4			7
Drainage defective	1	18	10	59	43	41	14	8	12	4	1		211
“ emptying in ditch							6						6
“ emptying on surface					10	1	3		3	3			20
Earth-closets defective and offen- sive										2			2
Filth at tide gate across Alewife Brook									1				1
Filth on premises			4	4	15	5	5	1	2	1	1		38
Garbage on premises							2		1				3
Manure exposed					9	2	7		2	2	2		24
Offal thrown in street								1					1
“ on land							1	1	2				4
Offensive material carted thro’ streets							1						1
Offensive odor from putrid meat “ pig-pen							1						1
“ “ “							2	1	1				4
Polluting natural water-course, Slaughter-house and surround- ings filthy				15	5								20
Slops thrown in court					2				2				4
“ “ street								1					1
“ “ yard					1	1		1			1		4
Stable drainage defective					1								1
“ filthy					4	3	1	1		1			10
“ offensive			1			1	1			1			4
Stagnant water in house cellar								2					2
“ “ in stable cellar								1					1
“ “ on land			5	1	8	7	1	7	2	3			34
“ “ under house				1							1		2
“ “ under stable								1					1
Vault full			8	2	49	24	32	12	29	17	9		182
“ not properly constructed,			5		4	4	4		4	6	1		28
“ “ covered					9								9
“ “ ventilated							1	3		3			7
“ offensive					5	2	13	5	4	2	1		32
Ventilation imperfect										1			1
Waste pipes defective					1				1		1		3
“ not trapped			1	1	1	3	2	2	3	7	5		25
“ stopped up				1									1
Water-closet defective							1	1	1	2	1		6
“ not supplied with water					1		1						2
Water from cellar flowing into well									1				1
Total	2	46	43	205	103	128	70	75	70	29	2		773

In addition to the 773 nuisances abated, 131 others have been complained of which have been referred to the board of 1879; some on account of the closing in of the winter season, and others on account of a lack of sewers in the localities where the nuisances exist. This matter of the lack of sewers is hereinafter noted in detail, under the head of "Sewers."

The 904 nuisances reported were included in 476 complaints, in many cases several nuisances being found on the same premises.

Seven complaints have been received, which, upon investigation, appear to have been made without sufficient cause.

In dealing with parties upon whose premises nuisances have been found, a mild course has been pursued, legal measures being resorted to only after gentler ones have proved of no avail. The results of this method have been very satisfactory, the greater number of nuisances having been abated after sending but one notice.

In the discharge of our duties, we have been obliged to prosecute only two parties, both of whom were fined by the court.

Thirty-three tenements have been ordered vacated, of which number 21 were put in proper sanitary condition before the time arrived for the enforcement for the order, 10 were vacated voluntarily, and 2 were caused to be vacated by the Chief of Police.

We have issued 809 notices (of which 86 were served by constables) and 142 letters.

It is the duty of the inspector, not only to examine premises where nuisances are reported to exist, but also to inspect any premises which he thinks may need attention, and report to the board. He is also required to report weekly the condition of premises where nuisances have been reported, until they are finally disposed of.

No set form of complaint is required, nor is the name of the complainant made public, either written or verbal complaints being received at the office.

We are always ready to examine gratuitously the premises of any citizen who may so desire.

One nuisance, which has been before City Governments of former years, has been abated by our order, viz., that caused by the drainage from houses in Hamlet Street and Thorpe Place, following through an open water course on land of the heirs of Charles Munroe and into the Medford Street sewer. This matter came before us early in the year, and notices were sent to the parties

draining into this water-course to discontinue so doing. A petition was soon after presented to the Board of Alderman for a sewer in Thorpe Place, which was granted, and the laying of this sewer, together with the laying of a covered drain in the water-course on land of the Munroe heirs, afforded the means by which the nuisance was abated. There is still, however, urgent need for a sewer in Hamlet Street, the abutters thereon being obliged to drain into cesspools.

For several years there has been a considerable body of stagnant water in the bed of Miller's Creek, between Prospect and Allen Streets, forming a nuisance which has been a fruitful source of complaint. By the filling of the bed of the creek, this nuisance has been substantially abated, although the whole territory is not as yet in a perfectly satisfactory condition.

Immediately after the destruction by fire of Messrs. Charles H. North & Co.'s Pork Packing and Rendering Establishment in June last, we visited the ruins, and found a large number of carcasses of swine mixed with the *débris*, which were creating an offensive odor. These were speedily removed by Messrs. North & Co., and such portions of the ruins as were liable to emit offensive odors were covered with charcoal. Later in the season, when the work of clearing the ruins was commenced, a large quantity of the *débris* was carted upon a vacant lot north of the Fitchburg Railroad, at the corner of Somerville Avenue and Medford Street. This material, being thoroughly saturated with putrid grease, when spread upon the land and exposed to the rays of the sun, caused a very offensive odor, of which complaint was made. At our request it was immediately covered with earth by Messrs. North & Co., a large force of men being employed, and thereafter every load as it was deposited upon the land was also covered with earth, and by this means and the liberal use of disinfectants, the remainder of the work of clearing the ruins was accomplished without serious annoyance.

PRIVIES. — Offensive privies have caused much complaint from those who have suffered from the bad odors therefrom. Wherever such nuisances have been found the owners or occupants of the premises have been notified to abate the same at once, and they have generally complied with such notices. Privy vaults in this city are not as a general thing constructed as they should be, many of them

being made simply of boards or planks imperfectly put together, with no ventilation whatever.

When privies are a necessity we would recommend that the vaults be constructed in accordance with the following rules, which are copied from the report of Phineas Ball, Civil Engineer, on a system of sewerage for the city of Fall River, dated at Worcester, Mass., Oct. 11, 1875 :—

“ *First.* Build the vault water-tight and keep it enclosed on all sides, above ground as near air-tight as practicable.

“ *Second.* Provide the vault with good ventilation, and always into a chimney flue if possible. This last arrangement has been known to make the common privy vault as free from every possible nuisance and offence as is the best regulated water-closet. In its use the following should be observed :

“ *First.* Allow no sink slops whatever to be poured into the vault.

“ *Second.* Keep all rain and surface water from flowing into it.

“ *Third.* Place within the vault regularly, dry coal ashes or dry earth, in such quantity that all fluids in its contents are at once absorbed.

“ And lastly, keep the vault regularly cleaned out, so that large accumulations shall never be allowed in the vault.”

In connection with the first of Mr. Ball's recommendations, we would say that in order to make a vault perfectly tight, it should be built of brick with Portland cement ; and in regard to ventilation, where it is impracticable to ventilate into the chimney flue, a ventilator at least eight inches in diameter should be extended from the vault to a sufficient height above the privy roof to insure a good draft, and to convey the gases above the level of neighboring windows.

We would recommend, however, that water-closets be provided instead of privies, where sewer accommodations can be obtained, and that parties in selecting building sites see that sewers are in the streets, or, if they are not, petition the Board of Aldermen to lay them.

STAGNANT WATER. — In many parts of the city there are ponds of filthy, stagnant water, which are receptacles for dead animals, garbage, and other refuse matter. That these miasmatic pools are unhealthy, all will admit. Great difficulty has been experienced in

dealing with these cases. Notices were served upon the owners of the lands, requesting them to drain, fill, or otherwise abate the nuisance. This request was complied with by quite a number, and places that have been for years past intolerable nuisances are now dry and healthy lands; but there still remain a large number of such nuisances that should be abated.

While the board has avoided as far as possible taking legal steps to compel owners to put their lands in a proper sanitary condition, hoping that they would see that their own, as well as the interest and welfare of others, demanded that these pestilential lands should be reclaimed, yet we feel that in the future the law regarding such nuisances should be rigorously enforced against those who fail to comply with the instructions of the Board of Health.

STABLES. — Offensive odors from stables, placed in close proximity to dwellings, have been the cause of much complaint, particularly where the stables have no proper receptacle for manure, and are not suitably drained or ventilated. The keeping of many cows in one stable in thickly populated portions of the city, especially where the animals are kept in the stable through the whole year without being pastured, creates nuisances that are very disagreeable and annoying to the neighborhood.

The smell from horse and cow stables is thought by many to be healthful. Even if such is the case, which is very doubtful, the owners or occupants of such stables have no right to deprive their neighbors of the privilege of breathing pure air. Attention is called to the following decision of Chief Justice Shaw, reported in 11 Metcalf, 572, 1846: "*In order to amount to a nuisance, it is not necessary that there should be a corruption of the atmosphere such as to be dangerous to health; it is sufficient that the effluvia are offensive to the senses, and render habitation uncomfortable.*"

This board respectfully recommends that the City Council do not grant permission to any one to erect a stable, unless it can be placed at such a distance from neighboring dwellings as not to cause annoyance, can be well drained and ventilated, and provided with a suitable pit for manure.

We also recommend that on every petition for liberty to erect a stable, a hearing be granted to all persons dwelling in the immediate neighborhood, notice to be given by posters, or some other sufficient means.

ALEWIFE BROOK. — This brook, which is the boundary between Somerville and Arlington, and runs from Belmont and Cambridge northerly to Mystic River, receives the contents of three large main sewers in Cambridge, draining an area of eight hundred and sixty-four acres, a portion of which is quite closely populated. Near the Broadway bridge, in Somerville, are tide-gates built by the city of Cambridge, which prevent the floating sewage from passing down the stream. This accumulation, although frequently removed by the city of Cambridge, still, together with the filth flowing in the brook, creates a nuisance which is often complained of by the residents in the vicinity. In September last this board sent a communication to the City Council of Cambridge, requesting them to abate the nuisance.

It is hoped that some other outlet for the sewerage of North Cambridge will soon be provided.

OFFENSIVE TRADES.

RENDERING. — For many years the inhabitants of our city suffered from the foul and sickening smells that came from rendering and grease-boiling establishments within the city limits, the larger number of these places being near the East Cambridge line. Upon inspection it was found that there was but one establishment that had proper apparatus for destroying the obnoxious gases. At most of them putrid grease was rendered in open kettles, the horrible stench emitted therefrom contaminating the air for a long distance.

In May last, the following regulation was adopted, and served upon all parties engaged in this business, except those therein named : —

OFFICE OF THE BOARD OF HEALTH, CITY HALL,
SOMERVILLE, May 31, 1878.

By virtue of the authority given in Chapter 26 of the General Statutes, the Board of Health of the city of Somerville hereby forbids the exercise, on or after June 15, 1878, of the trade or employment of rendering tallow (other than fresh tallow), lard, grease, fat, bones, or other refuse animal matter, within the limits of the city of Somerville, except at the factories of Charles H. North & Co., Medford Street, Joseph Boynton, Windsor Street, Charles O'Neil, Linden Street, or at such other place or places as may here-

after be assigned by said board ; such trade or employment being in the opinion of the board a nuisance, hurtful to the inhabitants, the exercise of which is attended by noisome and injurious odors.

GEORGE I. VINCENT,

Clerk.

Permits to render were granted to parties who had comparatively good apparatus, and all other applications were refused.

In 1877 there were 169 licenses granted by the Boston Board of Health to collect grease in that city, of which number 52 were granted to residents of Somerville, the most of whom brought the grease collected by them in Boston to this city, to be tried out in open kettles. In the month of May, 1878, the Boston Board of Health and this board passed orders that no non-residents should be licensed to collect grease without a recommendation from the Board of Health of the town or city where the applicant resided. By this means both boards were enabled to keep a better supervision of these parties than could otherwise be done. The State Board of Health by our invitation visited several of the places whose proprietors had been granted permission to render, and the opinion was expressed by members of that board that it would be impossible to carry on the business of rendering house grease with any apparatus now in use in this city, without creating an offensive odor.

SLAUGHTERING. — At the beginning of the year there were six slaughtering establishments in the city, four for slaughtering cattle and two for hogs. One of the latter was destroyed by fire in June, and is now being rebuilt. At the cattle houses the business is prosecuted on a small scale, and no rendering is done on the premises. Two of them are not provided with proper drainage, and during the year have been complained of by the neighboring residents.

Previous to the burning of Messrs. North & Co.'s establishment in June, the hog-slaughtering business was carried on by them and by Mr. Joseph Boynton, and both parties were also engaged in rendering and pork-packing. Since that time Mr. Boynton has given up the business, and Messrs. North & Co. have used the premises formerly occupied by him. Mr. John P. Squire's works are partly in Somerville and partly in Cambridge, but no slaughtering or rendering is done on the Somerville side of the line.

DANGEROUS DISEASES.

Recognizing the importance of being informed as to the prevalence in the city of diseases dangerous to the public health, and thus being prepared, in case of necessity, to adopt measures for preventing the spread of the same, on the 27th of February the following notice was adopted, and sent to all physicians known to practise in Somerville:—

OFFICE OF THE BOARD OF HEALTH, CITY HALL,
SOMERVILLE, Feb. 27, 1879.

You are hereby notified that the Board of Health considers small-pox, diphtheria, scarlet fever, and typhoid fever diseases within the meaning of Chapter 26 of the General Statutes, and that physicians will be expected to report all cases coming under their notice within the city.

Respectfully,

GEORGE I. VINCENT,
Clerk.

EXTRACT FROM CHAP. 26 OF THE GENERAL STATUTES.

“SECT. 48. When a physician knows that any person whom he is called to visit is infected with small-pox, or any other disease dangerous to the public health, he shall immediately give notice thereof to the selectmen or Board of Health of the town; and if he refuses or neglects to give such notice, he shall forfeit for each offence a sum not less than fifty nor more than one hundred dollars ”

This notice has also been published in both of our weekly papers. Each physician is provided with postal cards addressed to the Board of Health, bearing a blank form of report, and we believe that with but few exceptions the law has been complied with since the notices were issued.

The first of the following tables shows the number of cases of scarlet fever, diphtheria, and typhoid fever reported during the year, with the number that have, up to this date, resulted fatally. The other gives the number of deaths in the city from each of these diseases during the year 1877.

SCARLET FEVER, DIPHTHERIA, AND TYPHOID FEVER REPORTED IN 1878.

MONTHS.	SCARLET FEVER.			DIPHTHERIA			TYPHOID FEVER.		
	Cases reported.	Deaths.	Percentage of deaths.	Cases reported.	Deaths.	Percentage of deaths.	Cases reported.	Deaths.	Percentage of deaths.
March	9	1	11	11	3	27	...	...	...
April	5	...	...	4	2	50	1	...	...
May	2	...	...	4	...	...	...	...	...
June	6	...	...	6	1	17	...	...	...
July	1	...	...	3	2	67	1	1	100
August . . . . .	...	...	...	3	2	67	2	...	...
September . . . . .	...	...	...	2	...	...	8	1	12
October	20	3	15	11	3	27	3	1	33
November	41	5	12	12	1	8	3	1	33
December	24	6	25	14	7	50	...	...	...
Total	108	15	14	70	21	30	18	4	22

DEATHS FROM SCARLET FEVER, DIPHTHERIA, AND TYPHOID FEVER
IN 1877.

MONTH.	SCARLET FEVER.	DIPHTHERIA.	TYPHOID FEVER.
January	4	...	2
February . . . . .	...	4	...
March	1	9	...
April . . . . .	...	7	...
May . . . . .	...	8	...
June . . . . .	...	6	...
July	1	1	1
August	2	3	...
September . . . . .	...	4	...
October . . . . .	...	4	1
November	1	5	...
December	1	8	2
Total	10	59	6

The number of cases of and deaths from each disease, and the localities in which they occurred, are indicated on the map which accompanies and is a part of this report.

SCARLET FEVER. — In the month of October, this disease being quite prevalent, and the public schools affording a channel by which its spread might be increased, the following preamble and order were adopted, and published in both of the weekly papers, and copies were sent to the principals of all our public schools.

OFFICE OF THE BOARD OF HEALTH,
SOMERVILLE, October 17, 1878.

WHEREAS, scarlet fever is a disease contagious and dangerous to the public health, and, whereas, it is now prevalent in the city of Somerville; therefore the Board of Health issues the following notice: That on and after Oct. 17, 1878, the following provisions of Chapter 26 of the General Statutes will be strictly enforced:

“SECT. 47. When a householder knows that a person within his family is taken sick . . . of any disease dangerous to the public health, he shall immediately give notice thereof to the . . . Board of Health in the town in which he dwells. If he refuses or neglects to give such notice, he shall forfeit a sum not exceeding one hundred dollars.

“SECT. 48. When a physician knows that any person whom he is called to visit is infected with . . . any disease dangerous to the public health, he shall immediately give notice thereof to the . . . Board of Health of the town, and if he refuses or neglects to give such notice he shall forfeit for each offence a sum not less than fifty, nor more than one hundred dollars.”

And it is hereby ordered that no child from any house in which a case of this disease has occurred, or shall hereafter occur, shall, without a written permit from this board, attend any school in this city, until the expiration of four weeks from the commencement of the last case in such house; such length of time shall be certified in writing by a physician or some responsible member of the family; the certificate to be presented to the teacher of the school, before the child is admitted.

Attest:

GEO. I. VINCENT,
Clerk.

In connection with this action the inspector was required to call at every house from which cases were reported, obtain the names of all school children in the house and of the schools attended by them, and notify the teachers not to permit these children to attend school except as provided in the order.

Deeming it necessary to remind the people of the extremely contagious nature of this disease, the necessity of communication with the sick-room being avoided by all except the nurse and physician, the importance of the liberal use of disinfectants during the progress, and of thoroughly cleansing and disinfecting the room with its contents after the termination of the disease, the following suggestions were adopted October 23, and published in both of the Somerville papers, and 3,000 copies were distributed throughout the city. A copy is also sent to each house where a case of the disease is reported.

OFFICE OF THE BOARD OF HEALTH, CITY HALL,
SOMERVILLE, Oct. 23, 1878.

SUGGESTIONS FOR PREVENTING THE SPREAD OF SCARLET FEVER.

Scarlet fever, scarlatina, scarlet-rash, canker-rash, and rash-fever are names of a contagious and infectious disease of varying degrees of severity; but in which all the forms are capable of conveying the most severe type.

The contagious matter is capable of retaining its power to carry the disease for a long time. The means of transporting the contagion of scarlet fever may be furnished by anything that has come in contact with an infected person or object, — air, food, clothing, sheets, blankets, whiskers, hair, furniture, toys, library books, wall-paper, curtains, cats, dogs, etc. Funerals have occasionally spread the disease, the exhalations from the dead body being also dangerous.

The period from exposure which results in scarlet fever to the time when the symptoms manifest themselves varies from several hours to three, and possibly four, weeks. The average time is variously given from six to eight or ten days.

The time at which one who has been ill with scarlet fever may safely mingle with other people is usually placed by sanitarians at four weeks from the commencement of the illness.

The first principle of treatment is in isolation. The patient

should be in a room as much separated from the rest of the house as possible, and communicate with no more members of the household than is absolutely necessary. If an outward draught of air from the sick-room to the entry occurs, a curtain may be placed over and in front of the door, formed by a sheet which is soaked in some disinfectant. All unnecessary objects of every kind, especially woollen, should be removed from the room. The discharges from the throat, nose, and mouth of the patient may be put in a vessel containing a strong solution of some disinfectant, which shall be frequently washed with hot water; they should not be received upon anything which is to be kept. Pieces of soft cloth, which should be at once burned, may be used in place of pocket-handkerchiefs. This board recommends the following as a good fluid with which to disinfect cloths and clothes, and to put into vessels which are to receive slops or the discharges of the patient, or to turn down water-closets or privies to destroy contagion: "Eight ounces of sulphate of zinc, one ounce of carbolic acid, three gallons of water" Clothes "should be soaked in this fluid for at least one hour, and then placed in boiling water for washing."

Attendants on the sick should be as few as possible, and should not communicate with other persons any more than can be helped. They should wear only such clothing as may be readily washed. Cloths used in the sick-room should be boiled before being worn. Gargling or washing the mouth occasionally with a cleansing fluid is a useful measure for those who must be exposed to contagion; and in washing the hands, a little Condyl's Fluid* may be placed in the basin.

After recovery, the patient should not mingle with other persons, use lounges, carriages, public rooms, etc., liable to be used by others, until all roughness of the skin has disappeared, and until he has taken warm baths for several days. After the sick-room is no longer needed as such, all clothing and other matters used in it that can be washed should be soaked in boiling water; any articles of trifling value ought to be burned. The wall-paper should be soaked with carbolic acid, removed and burned. The ceiling should be washed with soap and hot water or scraped. The room should then be closed as tight as possible and as much sulphur burned in it as the air will allow (a pound is an abundant amount for any ordi-

* Made by adding two and a half drachms of Permanganate of Potash to one pint of cold water.

nary room) ; it should be kept closed from six to eight hours, and then opened for several days to the air and sunshine. The floor and wood-work should then be thoroughly washed with soap and hot water.

Should the sick person die, the body ought not to be removed from the sick-room until it has been sealed in the coffin, having first been properly disinfected. It is advisable that the funeral should be as private as possible and not attended by children.

The following sections in regard to isolation are from Chapter 26 of the General Statutes : —

SECTION 47 — When a householder knows that a person within his family is taken sick . . . of any disease dangerous to the public health, he shall immediately give notice thereof to the . . . Board of Health in the town in which he dwells. If he refuses or neglects to give such notice he shall forfeit a sum not exceeding one hundred dollars.

SECTION 48. — When a physician knows that any person whom he is called to visit is infected with . . . any disease dangerous to the public health, he shall immediately give notice thereof to the . . . Board of Health of the town ; and if he refuses or neglects to give such notice he shall forfeit for each offence a sum not less than fifty, nor more than one hundred dollars.

The Board of Health of Somerville, at present, require small-pox, scarlet fever, diphtheria, and typhoid fever to be reported to them. Children are especially liable to take and to spread scarlet fever ; and because schools afford a fine opportunity for this, it is hereby ordered :

That no child from any house in which a case of this disease has occurred, or shall hereafter occur, shall, without a written permit from this board, attend any school in this city until the expiration of *four weeks* from the commencement of the last case in such family. Such length of time shall be certified in writing by a physician or some responsible member of the family ; the certificate to be presented to the teacher of the school before the child is admitted.

Attest :

GEORGE I. VINCENT.

Clerk.

Scarlet fever is not only extremely contagious, but is also very dangerous, in that it is liable, if it does not prove fatal, to leave the patient with some permanent trouble. We consider it our duty to comment upon two practices which have been observed to prevail

to some extent, viz. : first, that of calling on families where the disease exists, running the risk not only of taking the disease, but of carrying it in the clothing to others, several cases (some of which proved fatal) having been traced in the past year to this source ; and, second, that of keeping the remains of those dying of the disease for two or three days before interment, and having large numbers of friends at the funeral. This is all wrong. Neighbors and friends should abstain from visiting infected houses, and the funeral should take place as soon as possible, and should be strictly private.

Owing to the fact that this disease is almost exclusively confined to children (only two adult cases having been reported during the year), it has been thought impracticable to require infected houses to be isolated. The board, however, has under consideration the expediency of adopting the practice which is now in force in Chicago, of hanging a red card bearing the words "SCARLET FEVER HERE," on each house where the disease exists, so that none shall expose themselves to the contagion for want of sufficient warning.

DIPHTHERIA. — In dealing with this disease, the board has acted upon the theory (which is generally upheld by the best authorities) that it is largely promoted, if not caused, by defective drainage, offensive vaults, and by a general want of cleanliness. Accordingly an inspection has been made of every house in which the disease has been reported, with results as shown in the accompanying table.

As appears by the table, sanitary defects were found in nearly every house or its surroundings, several houses being in a very bad condition. Of the entire number examined, there were but four which were not defective, and the patient in one of these was taken sick elsewhere.

There is no doubt that this disease is contagious, but the manner in which it is communicated is not known. The opinion prevails, however, among those best qualified to judge, that its prevalence and degree of danger depend very much upon the sanitary surroundings, and this opinion appears to be sustained by the table. It therefore becomes every householder to see that his system of house drainage and his premises generally are in the best possible sanitary condition.

TYPHOID FEVER. — This disease has not been very prevalent in our city during the past year, and therefore has not demanded so much attention as scarlet fever and diphtheria. It is not classed among contagious diseases, but is liable to be caused by the effluvia from decayed vegetable matter, or the miasma arising from stagnant water. The most efficient means, therefore, of protection from this disease are the filling and draining of pools of stagnant water, and the clearing of all decaying vegetables and garbage from cellars and premises generally.

ASHES.

During the past year the ashes and house dirt have been collected once in each month, instead of once or twice a year as formerly, this change giving great satisfaction to householders. The frequent collection of ashes and other refuse materials is a good sanitary measure, as it leads people to clear up their premises often, giving them a more neat and attractive appearance, and getting rid of rubbish and dirt, that might otherwise promote disease. House offal should never be mixed with ashes, as it is not only liable to emit bad odors but is also dangerous to health.

The cost of collecting ashes once a month for the year 1878 was \$707.34, being only \$199.03 more than the cost of the two collections in 1877. The larger portion of the ashes collected has been used by the highway department, to fill low lands owned by the city and for repairing sidewalks, it being valuable material for the latter purpose.

HOUSE OFFAL.

A contract for the collection of house offal was awarded to G. W. Cummings, for the term of two years, from June 26, 1878, at the rate of \$980 per annum. The collection is made three times a week in the months of May, June, July, August, and September; twice a week in the months of April, October, and November; and once a week in the months of December, January, February, and March. It has been observed that in some instances house offal is thrown in the yards of dwellings. This practice, which is very untidy and dangerous to health, is entirely needless, as the offal will be collected by the contractor if placed in suitable receptacles.

No. of Family.	Nationality.	Occupation of Head of Family.	No. of Patient.	Sex of Patient.	Age of Patient.	Date of Sickness.	Result.	District.	Soil.	Locality.	House Drainage.	Condition of Cellar.	Privy, etc.	Remarks.
1	Canadian	Laborer	1	Female	6	March	Fatal	I.	Clayey Gravel	Low and damp	Drains clogged	None	Privy in shed adjoining house	Occupants filthy.
2	American	Expressman	4	"	3	"	"	IV.	Sand	Low	Drain pipes broken	Frequently flooded by tide	Privy in yard	Bad odor in house; 4 cases in February.
3	"	Stationer	5	"	6	"	"	IX.	"	Good	Into cesspool, 8 feet from house	Dry	Water-closet in house.	
4	Irish	Tanner	6	"	21	"	"	IV.	"	Fair	Pipes broken; sewage flowed into cellar	Filthy	Privy in yard filthy	Hogshead cesspool.
5	American	Florist	7	Male	3	"	Fatal	VIII	Clayey Gravel	"	On surface, near house	Filthy	Privy 20 ft. from house	Dwelling adjoining hot-house. Occupants complain of dampness in room.
6	"	Merchant	8	"	18	"	"	II.	"	Good	Not trapped	Dry	Water-closet in house.	
7	"	Furniture dealer	10	"	16	"	"	VII.	"	"	Drain pipes broken in cellar	"	Privy 10 ft. from house.	
8	"	Agent	11	Female	16	"	"	I.	"	"	Not trapped	"	"	
9	"	Clerk	12	"	7	"	"	V.	"	"	Defect in drain pipes in cellar	"	"	
10	Canadian	"	13	"	16	April	"	II.	"	"	Good	"	Water-closet in house.	
11	American	Contractor	14	"	34	"	Fatal	V.	"	"	Improperly trapped	"	"	Two fatal cases in this house.
12	"	"	15	Male	7	"	"	II.	"	"	Drain pipes broken	"	"	
13	Irish	Laborer	16	Female	4	May	"	I.	Gravel	Low	"	Hens in cellar	Privy near house.	
14	American	Bookkeeper	18	"	14	"	"	V.	Clayey Gravel	Good	Not trapped	Dry	Water-closet in house	Occupants complain of offensive odor.
15	"	"	19	"	28	"	"	V.	"	"	"	"	Privy	Drains into open ditch.
16	"	Produce dealer	20	"	7	June	"	III.	Sand	"	"	Damp	Privy in shed.	
17	"	Provision dealer	21	"	4	"	Fatal	III.	Clayey Gravel	"	Drain pipe in cellar broken	"	Water-closet in cellar	Bad odor in house.
18	Irish	Laborer	22	Male	10	"	"	I.	Clay	Low	Drain pipe broken, not trapped	Dry	Privy in yard.	
19	American	Lawyer	23	"	12	"	"	V.	Clayey Gravel	Good	Open trap	"	"	
20	"	Carpenter	24	Female	8	"	"	III.	Sand	"	Drain pipes clogged	"	Water-closet in cellar.	
21	"	"	25	Male	2	"	"	X.	Clayey Gravel	"	Drain not trapped	"	"	Water-closet offensive.
22	Irish	Laborer	26	"	2	July	Fatal	III.	"	Fair	No drainage; slops thrown on next lot	Damp	Filthy	
23	American	"	27	Female	2	"	"	III.	"	Good	"	Dry	"	Patient sick when first occupied the house.
24	"	Milkman	28	"	8	August	Fatal	II.	"	"	Drains not trapped	"	"	
25	"	Oil Cloth Manuf.	29	Male	8	"	"	III.	"	Low	"	Damp	Privy near house	Mother of this child died of typhoid fever in 1878.
26	French	Brickmaker	31	Male	5	September	"	III.	Clay	Low	"	Dry	Privy filthy.	
27	American	Milkman	32	"	9	"	"	II.	Clayey Gravel	Good	Good	"	Water-closet in cellar.	
28	Irish	Laborer	33	"	34	October	Fatal	IV.	Sand	Low and damp	Drains empty under house, and into open cesspool	No cellar	Filthy	Sick-room in basement dark and damp; sink-spout discharging under window.
29	American	"	34	"	5	"	"	"	"	"	"	"	"	
30	"	"	35	Female	21	"	"	"	"	"	"	"	"	
31	Irish	Laborer	37	Male	11	"	"	II.	Clayey Gravel	Good	Pipes clogged and not trapped	Offensive	Privy 10 ft. from house.	
32	American	"	38	Female	32	"	"	VII.	"	"	Good	"	Water-closet in house.	
33	"	"	39	"	7	"	Fatal	VI.	Clay	Low and damp	Not trapped	Filthy	Privy filthy	Bad odor in kitchen, from hogshead cesspool.
34	"	"	40	"	7	"	"	IX.	Sand	Good	Drain into cesspool not trapped	Damp	Privy in yard; filthy.	
35	"	"	41	"	10	November	"	"	"	"	"	"	"	
36	"	"	42	"	24	"	"	"	"	"	"	"	"	
37	Irish	Laborer	43	"	45	"	"	"	"	"	"	"	"	
38	Irish	"	44	Male	3	October	"	VI.	Clay	Low and damp	Slops thrown in street	None	Privy in yard; filthy.	
39	Canadian	"	45	Female	2	"	"	VI.	"	Low	"	"	Privy filthy.	
40	Irish	"	46	Male	9	November	"	VI.	"	Low and damp	"	"	"	
41	"	"	47	"	5	"	"	VI.	"	"	"	"	"	
42	"	"	48	Female	8	"	"	"	"	"	"	"	"	
43	American	Laborer	49	Male	38	"	"	I.	"	"	Drains not trapped	Dry	Privy 5 ft. from house in yard	Direct connection with sewer.
44	Irish	Flagman	50	Female	18	"	"	I.	"	"	No drainage	None	Privy filthy.	
45	American	Collector	51	Male	54	"	"	IX.	Sand	Good	Cesspool 8 feet from house, overflowing	Dry	Water-closet in house.	
46	"	Real Estate Agent	52	"	5	"	"	II.	Clayey Gravel	"	Open cesspool, 10 feet from house	"	"	
47	"	Merchant	53	"	8	"	"	VII.	"	"	Good	"	"	Offensive stable on next lot, 4 ft. from house.
48	"	"	54	"	2	"	Fatal	IX.	Sand	"	Waste pipes not trapped	"	"	
49	"	"	55	Female	44	December	"	X.	Clayey Gravel	"	"	"	Privy 10 ft. from house, offensive.	Bad odor in kitchen from cesspool.
50	"	"	56	Male	3	"	"	"	"	"	"	"	"	
51	"	"	57	Female	14	"	"	X.	"	"	"	"	"	
52	Irish	Teamster	58	"	12	"	Fatal	VI.	"	Wet	Drainage on surface	Cellar dry; hens kept in it	Privy 30 ft. from house	Well 20 ft. from privy.
53	American	Tinsmith	59	"	39	"	"	V.	Sand	"	Waste pipes not trapped	None	Privy 30 ft. from house	
54	English	Mechanic	60	"	5	"	Fatal	IX.	"	"	Drainage on surface	Dry	Water-closet in cellar; defective.	
55	"	"	61	"	2	"	"	"	"	"	"	"	Privy full; adjoining kitchen.	
56	American	Brick Manufacturer	62	"	7	"	"	IX.	Clayey Gravel	"	Joints of drain pipe in c	Damp	Privy adjoining house.	
57	"	"	63	"	11	"	Fatal	"	"	"	open, waste pipes not trapped.	"	"	
58	American	Milkman	64	Male	6	"	"	IX.	Sand	"	Waste pipe not trapped	Dry	Privy adjoins kitchen.	Drains into cesspool five ft. from house.
59	"	Salesman	65	Female	1	"	Fatal	V.	Clayey Gravel	"	Drain clogged	Damp and offensive	Privy 5 ft. from house.	
60	Irish	Laborer	66	Male	14	"	"	VI.	Clay	Low and wet	Drainage on surface	None	Privy filthy; 5 ft. from house	Damp under house.
61	American	"	67	Female	4	"	"	IX.	Clayey Gravel	Good	Waste pipe not trapped	Dry	Water-closet in cellar; defective.	
62	"	"	68	"	14	"	"	"	"	"	"	"	"	
63	"	"	69	"	13	"	Fatal	V.	"	"	Good	"	Water-closet in cellar.	
64	"	Machinist	70	"	2	October	"	II.	"	"	Drain not trapped, er	"	Privy in yard 7 ft. from house	

We are of the opinion that the time is not far distant when this work should be performed by the city, with its own men and teams.

REMOVAL OF NIGHT SOIL.

A contract for one year from April 25, 1878, was made with Messrs. Russell and Fitch for the removal of night soil, the compensation to be received by them from the owners or lessees of premises where vaults are emptied being three dollars per load in the months of April, May, June, July, August, September, and October, and two dollars per load in the months of November, December, January, February, and March. The work has been performed in a very satisfactory manner. Five hundred and one vaults were emptied during the year 1878, being one hundred and thirty-three more than the number emptied in 1877. The board has under consideration the expediency of employing the odorless excavating apparatus, such as is used in Boston, Lawrence, and other cities.

Orders for cleaning vaults and cesspools should be sent to the office of the Chief of Police, Bow Street, or to the store of Messrs. J. F. Cole & Co., corner of Perkins and Franklin Streets.

LICENSES.

The following was received by us Feb. 27 : —

CITY OF SOMERVILLE.

IN BOARD OF MAYOR AND ALDERMEN, Feb. 26, 1878.

Ordered, That the City Clerk be, and he is hereby authorized and instructed to issue such licenses to keep swine and goats, and to collect grease, as the Board of Health may direct.

IN BOARD OF ALDERMEN, Feb. 26, 1878.

Order adopted.

CHAS. E. GILMAN, *Clerk*.

Under its provisions, recommendations to grant and refuse licenses to keep swine and goats, and to collect grease, have been forwarded to the City Clerk, as stated below.

SWINE. — Applications have been received for licenses to keep 329 swine, of which number we have recommended that licenses be

granted to keep 269, and that licenses to keep the remaining 60 be refused. 150 of the swine licensed are kept at the stables of the McLean Asylum, where about the same number have been kept without a license for several years, the steward not being aware, until notified by us, that it was necessary to obtain a license. Our notice was promptly responded to, however, and a license was applied for.

Fourteen parties have been prosecuted by the Chief of Police for keeping swine without a license, and have been fined by the Court.

GOATS. — Applications have been received for licenses to keep sixty-five goats, and we have recommended that licenses be granted to keep sixty-four, and that a license be refused for the remaining one. Four parties have been prosecuted and fined for keeping goats without a license.

GREASE. — Twenty-five applications have been received for licenses to collect grease, and we have recommended that they all be granted. Of this number several were granted to parties who had formerly rendered grease in open kettles, but in such cases the licenses were refused, as were also recommendations to collect in other cities, until after this practice had been abandoned, and the parties had promised not to resume it.

MORTALITY STATISTICS.

The following table shows the causes of death in Somerville in 1878, with the number of deaths from each cause, classified according to the Statistical Nosology adopted for registration in Massachusetts.

MORTALITY IN SOMERVILLE IN 1878.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Zymotic Diseases.													
MIASMATIC.													
Measles . . . . .	..	..	..	..	1	1	1	..	..	..	..	..	3
Scarlet Fever . . . . .	..	..	..	1	..	..	..	..	..	3	4	7	15
Diphtheria	4	4	5	1	..	1	2	1	1	2	1	5	27
Croup . . . . .	..	..	..	..	..	..	..	..	..	1	1	2	4
Whooping Cough . . . . .	..	..	1	..	..	..	..	..	..	..	..	..	1
Typhoid (and Infantile Fever)	1	..	..	..	..	..	..	2	1	1	..	1	6
Erysipelas	1	..	..	1	..	..	..	..	..	..	..	..	2
Dysentery . . . . .	..	..	1	1	..	..	..	2	1	1	..	1	6
Diarrhœa . . . . .	..	2	1	..	1	..	1	2	2	1	..	2	12
Cholera Infantum . . . . .	..	..	..	..	..	..	8	9	7	1	..	..	25
Cerebro-Spinal Meningitis . . . . .	..	..	..	..	..	..	..	..	..	..	1	..	1
ENTHETIC.													
Syphilis . . . . .	..	..	..	..	..	..	..	1	..	..	1	..	2
DIETIC.													
Intemperance . . . . .	..	..	..	..	1	..	..	..	..	..	..	..	1
Constitutional Diseases.													
DIATHETIC.													
Dropsy and anæmia . . . . .	..	..	1	..	..	1	..	..	..	..	1	1	4
Cancer . . . . .	..	..	..	..	..	..	..	1	..	..	..	..	1
“ abdomen	1	..	..	..	..	..	..	..	..	..	..	..	1
“ breast . . . . .	..	..	..	..	..	1	..	..	..	..	..	..	1
“ stomach . . . . .	..	..	..	..	..	..	..	..	..	1	..	..	1
“ uterus	1	..	..	1	..	..	..	1	..	..	..	1	4
TUBERCULAR.													
Phthisis pulmonalis	4	5	4	6	6	2	3	6	6	7	8	7	64
Hydrocephalus	1	..	..	1	..	1	..	1	..	1	..	..	5
Local Diseases.													
NERVOUS SYSTEM.													
Cephalitis . . . . .	..	..	..	2	..	..	2	..	..	..	1	..	5
Apoplexy . . . . .	..	1	2	..	..	..	..	..	1	1	1	..	6
Paralysis . . . . .	..	..	2	..	..	..	2	1	..	..	..	4	9
Insanity	1	2	..	2	1	..	..	..	..	2	1	..	9
Epilepsy . . . . .	..	..	..	..	..	..	..	..	..	..	..	1	..
Convulsions . . . . .	..	1	..	..	..	..	1	2	..	..	2	..	..
Brain Diseases . . . . .	..	..	1	1	..	1	1	1	1	1	1	..	..
ORGANS OF CIRCULATION.													
Aneurism . . . . .	..	..	..	..	..	1	..	..	..	..	..	..	..
Heart Diseases	1	1	4	2	1	4	..	3	..	1	1	..	18
RESPIRATORY ORGANS.													
Bronchitis	1	3	..	..	3	..	1	..	..	2	..	4	14
Pneumonia	3	4	2	1	2	3	2	1	2	2	2	2	26
Lung Diseases . . . . .	..	1	..	..	..	..	..	..	..	..	..	..	1
DIGESTIVE ORGANS.													
Gastritis	1	..	..	..	..	..	..	..	..	..	..	1	2
Enteritis . . . . .	..	..	..	..	..	..	..	1	1	..	..	..	2
Peritonitis . . . . .	..	1	..	..	1	..	1	..	..	..	..	..	3
Ulceration of Intestines . . . . .	..	..	..	..	1	..	..	..	..	..	..	..	1
Jundice . . . . .	..	1	..	..	..	..	..	..	..	..	..	..	1
Liver Diseases . . . . .	..	..	..	..	..	..	..	1	..	1	1	..	3
Ileus . . . . .	..	..	..	..	..	..	..	1	..	..	..	..	1

MORTALITY IN SOMERVILLE IN 1878, *continued.*

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
URINARY ORGANS.													
Cystitis	1	1	..	..	..	..	..	..	..	..	2
Disease of Kidneys	1	..	..	..	..	1	..	..	2
ORGANS OF LOCOMOTION.													
Joint Diseases	1	..	..	..	..	..	..	1
INTEGUMENTARY SYSTEM.													
Phlegmon	2	..	2
Developmental Diseases.													
OF CHILDREN.													
Stillborn	1	3	1	3	1	1	..	..	1	1	..	2	14
Premature Birth and Infantile Debility	2	1	2	..	3	2	2	2	1	..	15
Cyanosis	1	..	..	..	..	..	..	..	..	1	2
Other Malformations	1	..	..	..	..	..	..	..	..	1
OF WOMEN.													
Childbirth	1	1	1	..	..	..	..	1	4
OF OLD PEOPLE.													
Old Age	3	3	1	..	1	..	1	1	..	..	1	11
DISEASES OF NUTRITION.													
Atrophy and Debility	1	2	..	..	3	1	3	3	3	..	..	1	17
Violent Deaths.													
ACCIDENT OR NEGLIGENCE.													
Burns	1	..	..	1
Drowning	1	..	..	..	..	..	1
Railroad	1	..	..	1	..	..	..	2
Scalding	1	..	..	..	..	..	..	..	..	..	1
SUICIDE.													
Drowning	1	..	..	..	..	..	1
Shooting	1	..	..	1
Otherwise	1	..	..	..	1
Unknown	2	..	2
Total	22	34	32	27	26	23	33	43	32	35	32	45	384

The following table shows the rates of mortality in Somerville and adjoining cities and towns, for the seven years ending Dec. 31, 1878, based upon the population of 1870 and 1875, according to the census returns for those years; the figures, except those for 1878, being taken from the Massachusetts Registration reports.

RATES OF MORTALITY IN SOMERVILLE AND ADJOINING CITIES AND TOWNS, 1872 TO 1878.

City or Town.	Population by census of 1870.	Death rate per cent based on population, 1870.		Population by census of 1875.	Death rate per cent based on population of 1875.				
		1872.	1873.		1874.	1875.	1876.	1877.	1878.
Boston	250,526	3.23	3.14	341,919	2.28	2.61	2.40	2.13	2.23
Cambridge	39,634	2.68	2.44	47,838	2.31	2.33	2.02	2.03	2.11
Somerville	14,685	2.69	2.88	21,868	2.23	2.29	2.03	2.02	1.76
Chelsea	18,547	2.07	2.34	20,737	1.70	2.01	1.91	1.53	1.76
Malden	7,367	2.44	1.95	10,843	1.32	1.83	1.74	1.86	1.63
Medford	5,717	1.80	2.15	6,627	1.66	1.69	1.72	1.54	1.69
Arlington	3,261	1.96	2.08	3,906	1.92	2.87	1.92	2.15	1.97
Everett	2,220	2.07	2.48	3,651	1.67	1.67	2.16	1.84	1.56

The following table shows the rates of mortality in the cities of Massachusetts in 1876, based upon the estimated populations for that year, taken from the report of the State Board of Health dated January, 1877.

RATES OF MORTALITY IN MASSACHUSETTS CITIES. — 1876.

CITIES.	POPULATION.	Death rate per 1000.	CITIES.	POPULATION.	Death rates per 1000.
Boston	346,000	23.84	Somerville	22,000	20.18
Worcester	52,000	21.61	Chelsea	20,692	20.39
Lowell	50,000	22.92	Taunton	20,500	20.39
Cambridge	50,000	19.32	Gloucester*	17,000	25.35
Fall River	46,000	24.13	Newton	16,500	17.03
Lawrence	35,000	24.14	Holyoke	16,260	25.22
Lynn	33,000	21.72	Newburyport	13,500	21.85
Springfield	30,000	21.05	Pittsfield	12,267	21.92
Salem	26,700	23.26	Fitchburg	12,000	21.50
New Bedford	26,000	22.92			

* This death rate does not include 212 lost at sea from that port.

The following table shows the rates of mortality in the principal cities of the United States in 1876, based upon the estimated population for that year, taken from the report of the State Board of Health, dated January, 1877.

RATES OF MORTALITY IN PRINCIPAL CITIES OF THE UNITED STATES.
1876.

CITIES.	POPULATION.	Death rate per 1000.	CITIES.	POPULATION.	Death rate per 1000
New York	1,046,037	27.87	Washington	160,000	26.40
Philadelphia	825,000	22.93	Buffalo	150,000	14.29
Brooklyn	527,830	23.31	Louisville	150,000	18.50
Chicago	420,000	20.41	Pittsburg	145,000	19.97
Baltimore	355,000	20.79	Detroit	120,000	15.31
Boston	346,000	23.84	Milwaukee	110,000	18.95
San Francisco	300,000	18.89	Providence	103,000	14.64
Cincinnati	280,000	20.39			
New Orleans	215,000	29.10			
Cleveland	162,000	19.90			

SEWERS.

The lack of sewers has, in several instances, prevented the abatement of nuisances. The locality known as the "Patch" is sadly in need of sewers and is a great part of the time in a filthy condition. In heavy rains the whole territory is flooded, and it is impossible to thoroughly enforce proper sanitary laws in this locality.

The section bounded by Broadway, Lowell, Appleton, and Hinckley Streets should also be provided with sewers, the soil being so wet that cesspools do but little good.

The sewage from Partridge Avenue, Jenny Lind Avenue, and a part of Vernon Street is now discharged into an open ditch on the north side of the Lowell Railroad near Somerville Centre station. This has caused a nuisance for several years past, and in warm weather the stench seriously annoys the neighboring residents.

A sewer is also needed in Pearl Street between Cross and Marshall Streets.

We would call the special attention of the Board of Aldermen to the above-named localities, as it seems necessary, before the lat-

eral sewers can be built, to construct a trunk sewer, which will require considerable time to complete, and it is important that the work be commenced at an early day.

Our attention has been called to the thickly populated streets on the northerly side of Winter Hill by the large number of miasmatic diseases reported from that territory. The streets are not provided with sewers, and the cesspools used are constantly overflowing.

The sewage from many of the houses in Joy Street is discharging on the vacant land bounding on Linwood Street, and has been a source of considerable annoyance to this board. The only way to abate the nuisance is to lay a sewer in Joy Street.

On Tufts Street, Fountain Avenue, and Line Street the drainage is emptied into the open gutters and ditches, causing nuisances which we are unable to abate until the streets are provided with sewers.

We earnestly recommend to the Mayor and Aldermen that early measures be taken to provide proper sewerage for these localities, and we believe that every dollar judiciously expended for sewers will conduce to the health and prosperity of the city.

The locations of all the sewers in the city are indicated by dotted lines on the accompanying map.

DISTRICTS.

For the purpose of comparing the rates of mortality, the prevalence of scarlet fever, diphtheria, and typhoid fever, and the number of nuisances abated in different localities, the city has been divided into ten districts, indicated on the accompanying map by red lines, the numbers of the districts being in Roman numerals.

In making this division we have been governed mainly by the nature of the soil, the general elevation of the land, the class and density of the population and dwellings, and the facilities for drainage.

In estimating the population the census of 1875 is taken as a basis. The number of poll-tax payers in the city for that year being ascertained from the assessors' books, the ratio of population to polls is found to be a fraction more than four to one. The number of polls for each year and the number of polls in each district in 1878 being ascertained from the same source, the ratio of population to polls is assumed to be the same as in 1875, and the increase or decrease of population, as shown from year to year, is

assumed to be uniform throughout the city except in District IX, where a slight deviation is made from this rule, and in District X, where a greater one is made, on account of facts known in regard to the growth of these sections.

The following is a brief statement of the locality and characteristics of each district:

DISTRICT I. This district includes the McLean Asylum, the filled basin of Miller's River, the filled clay-pits near Oliver Street, the territory known as "Brick Bottom," and the thickly populated section near the Union Glass Works; also all the pork-packing and rendering establishments in the city. Its area is about three hundred and thirty-seven acres. The soil is mostly clay. About three eighths of the district is vacant uplands and about one eighth marsh.

The remainder is thickly settled almost entirely by a foreign population, living in small houses, and is nearly all provided with sewers.

The land is generally low, a large part of the settled portion being not more than thirteen feet above mean low water. There are 1,006 dwellings, and the estimated population is 4,100, being an average of four and one tenth persons to a dwelling.

DISTRICT II. This district embraces nearly all that part of the city known as East Somerville, lying east of Cross Street, including the populated part of Mt. Benedict. The area is about one hundred and seven acres. The soil is clayey gravel, and the average elevation is about forty feet above mean low tide. The whole district is thickly populated and, with few exceptions, by native-born people, living in good houses. Most of the streets are provided with sewers. It contains 678 dwellings, and the estimated population is 4,000, being an average of five and nine tenths persons to each dwelling.

DISTRICT III. This district is bounded by Washington Street, the Fitchburg Railroad, Prospect Street, and the Cambridge line. Its area is about ninety-three acres. The soil is chiefly clay and the land is generally low and damp, most of the settled portion being about sixteen feet above mean low tide.

About one half of the district is vacant land. The remainder is populated principally by native-born people, living in good houses, and there are sewers in nearly all the thickly settled streets. It contains 285 dwellings, and has an estimated population of 1,550, averaging five and four tenths persons to each dwelling.

DISTRICT IV. This district embraces all of the valley south of Somerville Avenue and west of Mystic and Merriam Streets, except those parts included in Districts I and III. It includes the American Tube Works, the Middlesex Bleachery, and the currying shop of Messrs. Reitenbach and Mink. A part of Union Square is also included. It has an area of about one hundred and seventy-one acres. The soil is sandy and the land is low, the average elevation being about twenty feet above mean low tide. About one eighth of the district is vacant land, nearly all of which is scattered over that part lying west of Hawkins Street. East of Hawkins Street, the district is quite closely settled, as are also the two sections, one of which lies west of the Tube Works and north of the Fitchburg Railroad, and the other between the Fitchburg Railroad and Washington Street, east of Vine Street. More than one half of the people are foreign born, most of whom live in small houses, while nearly all the native-born population occupy good houses. Nearly every street east of the Tube Works is provided with a sewer, and sewers extend the entire length of Somerville Avenue and Beacon Street. Most of the thickly settled portions west of the Tube Works are without sewers, except Vine and Dane Streets, where sewers were built during the past year. There are 499 dwellings, and the population is estimated at 2,750, being an average of five and five tenths persons to each dwelling.

DISTRICT V. This district, which includes Prospect Hill and Spring Hill, and the southerly slope of Central Hill, extends from Medford Street to Willow Avenue, between Highland Avenue and Somerville Avenue. The area is three hundred and sixty-one acres, and the soil is clayey gravel, the elevation ranging from twenty to one hundred and forty feet above mean low tide. About one third of this district consists of large tracts of vacant land, principally on Prospect and Spring Hills.

The population is composed almost entirely of native-born people, living in good houses.

Most of the thickly settled portions are provided with sewers, but there are several localities where cesspools are used. There are 814 dwellings, and the population is estimated at 4,300, being an average of five and three tenths persons to each dwelling.

DISTRICT VI. This district is bounded by Highland Avenue, Willow Avenue, the Medford line and Medford Street, and contains two hundred and eighty-five acres. The soil in the settled parts is clayey gravel.

The highest elevation is about one hundred and fifteen feet, and the lowest about thirty-five feet above mean low tide. About three fourths of the district consists of large tracts of vacant land, including the "Birch Pasture" and "Polly Swamp," the Tufts' Brick Yard, the City Farm, and the City Land on Central Hill. The more thickly settled portions are the locality known as the "Patch," and the streets between Partridge Avenue and the City Farm, and they are populated by foreign-born people, living in small houses, poorly drained, having no sewers. Partridge Avenue and Jenny Lind Avenue are populated mostly by native-born people, living in small houses, the entire sewage entering a drain which discharges into an open ditch in the immediate vicinity. The remainder of the people of this district are native-born, living in good houses, which have large lots of land and are drained into cesspools. The only public sewer in the settled portion was built late in the past year, and only two dwellings have as yet been connected with it.

There are 255 dwellings, with a population estimated at 950, being an average of three and seven tenths persons to each dwelling.

DISTRICT VII. This district is bounded by Medford Street, Broadway, and Cross Street, and includes a part of Winter Hill, its area being one hundred and ninety-four acres. The soil is clayey gravel, and the elevation varies from one hundred and forty to thirty-five feet above mean low tide. About one third consists of vacant lands, — on Broadway opposite the Park, on Pearl and Walnut Streets, and at the northerly extremity of the district between Medford Street and Broadway. Most of the district is thickly populated, principally by native-born people, living in good houses. A large part is provided with sewers, cesspools being used in the remainder. There are 447 dwellings, and the estimated population is 2,350, being an average of five and two tenths persons to each dwelling.

DISTRICT VIII. This district is bounded by Broadway, the Medford line, Mystic River, the Boston line, Mystic Avenue, and the rear of the lots on the westerly side of Austin Street. Its area is four hundred and eighty-two acres. The soil in the populated parts is clayey gravel, the elevation varying from one hundred and forty-five feet to ten feet above mean low water. About one third of the district consists of water and flats, about one fifth is marsh, and about one quarter is vacant upland, which includes

Convent Hill, the Broadway Park, the "Ten Hills Farm," and the large tracts of land bordering on Mystic Avenue between Convent Hill and the Park, and between the Park and the Medford line. Nearly the entire population is located in two sections, one north of Mystic Avenue, near the Boston line, and the other on the northerly and easterly slopes of Winter Hill.

Part of the people are native-born, living in good houses, those of foreign birth living in ordinary houses. The only sewers are in Mystic Avenue, near the Boston line, and in portions of Broadway, most of the houses draining into cesspools. The dwellings number 160, and the population is estimated at 700, averaging four and four tenths persons to each dwelling.

DISTRICT IX. This district includes the most thickly settled part of the section known as West Somerville, and extends from Willow Avenue westwardly to the rear of lots on the westerly side of Irving Street. It has an area of one hundred and seventy-four acres, about one half of which is vacant land, including the "Powder-House Farm," the ledge lot on Broadway, and the low lands near the Arlington Branch Railroad. The soil in about three quarters of the settled portion is sand, and in the remaining one quarter is clay and clayey gravel. The average elevation is about forty feet above mean low tide. The population is almost entirely native-born, living in good houses. Most of the settled portions are provided with sewers, which were nearly all built in 1877. There are 273 dwellings, and the population is estimated at 1,250, being an average of four and six tenths persons to each dwelling.

DISTRICT X. This district includes College Hill, and all of West Somerville lying west of Irving and Meacham Streets. The area is four hundred and fifty-six acres, and the soil is chiefly clayey gravel. The elevation varies from one hundred and twenty-two to ten feet above mean low tide, the populated portion being on the high lands. Most of the district is a farming territory, the parts more thickly populated being the southerly slope of Clarendon Hill and the immediate neighborhood of Tufts College. The people are nearly all native-born, and live in good houses. There are no sewers. The dwellings number 136, and the estimated population is 550, being an average of four persons to each dwelling.

The following map shows the locations of the ten districts (the boundaries being indicated by red lines), the location of each case of scarlet fever, diphtheria, and typhoid fever reported (indicated by characters as explained in the lower right-hand corner of the map), and the locations of all the sewers in the city, which are indicated by dotted lines.

The following table shows the number of deaths, and the number of deaths per thousand of population in each district during the last five years, exclusive of patients in the McLean Asylum for the Insane.

The estimated populations are obtained in the manner stated at the beginning of the subject of Districts.

It is possible that a few errors may have been made, owing to the difficulty experienced in locating some cases of death; but the table may be accepted as substantially correct.

MAP OF SOMERVILLE,

1879.

SCALE

SHOWING HEALTH DISTRICTS.



TABLE OF DEATHS IN EACH DISTRICT DURING THE LAST FIVE YEARS, EXCLUSIVE OF PATIENTS IN
McLEAN ASYLUM.

Districts	I.		II.		III.		IV.		V.		VI.		VII.		VIII.		IX.		X.		Entire City.	
	No. of deaths.	No. per 1,000 of population.	No. of deaths.	No. per 1,000 of population.	No. of deaths.	No. per 1,000 of population.	No. of deaths.	No. per 1,000 of population.	No. of deaths.	No. per 1,000 of population.	No. of deaths.	No. per 1,000 of population.	No. of deaths.	No. per 1,000 of population.	No. of deaths.	No. per 1,000 of population.	No. of deaths.	No. per 1,000 of population.	No. of deaths.	No. per 1,000 of population.	No. of deaths.	No. per 1,000 of population.
1874	147	37	53	14	24	16	86	33	67	16	34	37	26	11	17	25	18	15	3	8	475	22
1875	149	37	84	22	26	17	56	21	75	18	29	32	32	14	13	19	15	12	7	15	486	22
1876	113	30	62	17	17	12	62	24	78	20	23	26	25	12	11	17	25	22	10	20	426	21
1877	126	32	57	15	18	12	57	22	61	15	31	34	29	13	12	18	32	27	5	10	428	20
1878	92	22	50	12	32	21	53	19	53	12	24	25	32	14	15	21	17	14	7	13	375	17
5 years	627	33	306	16	117	16	314	24	334	16	141	31	144	13	68	20	107	18	32	14	2,190	20

District I shows the highest average death-rate for the five years. The rate has been materially reduced however during this period, which fact is probably due in part to the filling of the basins of Miller's River, which was completed in 1875, and to the gradual improvements made in the sanitary condition of the territory since that time.

The average death-rate in District II is low. This was one of the earliest settled parts of the city, and its general sanitary condition has not been materially changed during the five years. Its general location is favorable for health, and its people as a rule are thrifty and keep their premises in a neat condition.

District III also shows a low average rate. The increase in 1878 may be attributed in part to the prevalence of dangerous diseases. As the general level of the district is low, it is especially affected by the back water from the sewers at times when heavy rains and high tides occur simultaneously, and the cellars in many cases retain the dampness for a long time.

The average rate in District IV is rather high. The land is low and in many parts wet, and it is but partially provided with sewers. The rate has been somewhat reduced during the five years, which may have been effected by the construction of the trunk sewer in Washington and Beacon Streets, which was the means of draining off considerable surface water and of lowering the general water level.

In District V the rate is low. The natural location and the general character of the inhabitants are favorable for health, the district including some of the highest lands in the city. But little change has been made in its general sanitary condition during the five years under consideration, most of the sewers having been built previous to 1874.

In District VI the rate is high. . Nearly all of the settled portion is suffering for want of proper drainage, and to this fact we attribute the high death-rate.

The rate is the lowest in District VII, and has varied but little from year to year. The class of inhabitants, the natural location, and the drainage are all, generally speaking, good, there being but a very few localities where improved drainage facilities are needed.

The average rate in District VIII is the same as the average in the entire city. Most of the settled portion is high land, but sewers are needed to provide for the house and surface drainage.

In District IX the rate is a little below the average in the city, increasing from 1874 to 1877, and falling off nearly one half in 1878. We think that the advantage of sewers is very clearly shown in this case, the population increasing quite rapidly in the first three years, and the district being entirely without sewers until 1877, during which year the trunk sewer in Elm Street was completed and several lateral sewers were built.

In District X the rate is next to the lowest. Most of the territory is used for farming purposes, and the more thickly settled parts are well elevated.

There is one matter which has a very important bearing upon the health of any locality, but upon which we are not prepared to report at this time, and that is, the general quality of house-drainage. In order to speak intelligently upon this subject, it would be necessary to make a thorough inspection of a large number of houses in each district, and with the limited means at our disposal, it has been impossible to do this, in addition to the general work of the department.

The three following tables explain themselves, and as they contain statistics for the year 1878 alone, we are not prepared to base any remarks upon them in relation to the general character of the several districts.

The fourth and last table gives the length of sewers in each district.

TABLE SHOWING THE FIVE PRINCIPAL CAUSES OF DEATH
IN THIS CITY IN 1878, WITH THE NUMBER AND RATE IN
EACH DISTRICT.

DISTRICT	CONSUMPTION.		DIPHThERIA.		PNEUMONIA.		CHOLERA INFANTUM.		HEART DISEASE.	
	No. of Deaths.	No. per 1,000 of pop.	No. of Deaths.	No. per 1,000 of pop.	No. of Deaths.	No. per 1,000 of pop.	No. of Deaths.	No. per 1,000 of pop.	No. of Deaths.	No. per 1,000 of pop.
I.	17	4.15	4	0.98	7	1.71	9	2.19	2	0.49
II.	13	3.25	2	0.50	5	1.25	2	0.50	1	0.25
III.	1	0.65	4	2.58	4	2.58	2	1.29	0	0.00
IV.	8	2.91	5	1.82	3	1.00	5	1.82	2	0.73
V.	12	2.79	2	0.47	3	0.70	2	0.47	3	0.70
VI.	4	4.21	3	3.16	1	1.05	2	2.10	0	0.00
VII.	5	2.13	1	0.43	2	0.85	1	0.43	4	1.70
VIII.	1	1.43	2	2.86	0	0.00	1	1.43	1	1.43
IX.	2	1.60	4	3.20	0	0.00	0	0.00	3	2.40
X.	1	1.90	0	0.00	1	1.90	1	1.90	2	3.80
Total	64	2.84	27	1.20	26	1.15	25	1.11	18	0.80

TABLE OF SCARLET FEVER, DIPHThERIA, AND TYPHOID
FEVER IN EACH DISTRICT IN THE LAST TEN MONTHS
OF 1878.

DISTRICT.	SCARLET FEVER.			DIPHThERIA.			TYPHOID FEVER.		
	Cases reported.	Deaths.	Rate per cent of deaths.	Cases reported.	Deaths.	Rate per cent of deaths.	Cases reported.	Deaths.	Rate per cent of deaths.
I	11	3	27	9	2	22	4	1	25
II . . .	17	1	6	8	1	13	1		
III	15	5	33	8	3	38	1	1	100
IV	11	3	27	7	3	43	2		
V	22	2	9	9	3	33	3		
VI	3	.....	.....	8	3	38	1		
VII	8	.....	.....	3			1		
VIII	16	1	6	1	1	100	3	1	33
IX	5	.....	.....	14	5	36	2	1	50
X . . . .	.....	.....	.....	3					
Total	108	15	14	70	21	30	18	4	22

TABLE OF NUISANCES ABATED IN EACH DISTRICT IN 1878.

CAUSE OF NUISANCE.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	Total.
Cellar damp	3	3	2	..	7	..	2	1	1	..	19
Cesspool defective . . . . .	..	..	..	..	1	..	..	..	..	1	2
“ full . . . . .	..	1	1	1	1	..	1	..	4	2	11
“ in cellar offensive . . . . .	..	1	..	..	..	..	..	..	..	..	1
“ not properly covered	1	..	1	1	2	2	..	1	3	2	13
“ under house offensive	1	..	..	..	..	..	..	..	..	..	1
“ offensive . . . . .	..	..	..	1	..	..	..	..	1	..	2
Drain stopped up . . . . .	..	..	..	..	1	..	..	..	..	..	1
“ not trapped	2	1	1	1	3	..	4	1	3	1	17
“ not properly covered . . . . .	..	..	..	..	1	..	..	..	..	..	1
“ pipe broken and leaking . . . . .	..	4	1	..	1	..	..	1	..	..	7
Drainage defective	56	25	4	45	29	15	12	6	10	9	211
“ emptying into ditch . . . . .	..	..	..	1	1	..	..	..	4	..	6
“ emptying on surface	5	..	1	6	1	4	..	..	2	1	20
Earth-closets defective and offensive, . . . . .	..	..	..	..	2	..	..	..	..	..	2
Filth at tide gate across Alewife . . . . .	..	..	..	..	..	..	..	..	..	1	1
Brook . . . . .	..	..	..	..	..	..	..	..	..	1	1
Filth on premises	15	3	..	4	8	..	5	1	1	1	38
Garbage on premises . . . . .	..	..	..	..	3	..	..	..	..	..	3
Manure exposed	8	2	2	4	2	1	2	1	2	..	24
Offal thrown in street . . . . .	..	1	..	..	..	..	..	..	..	..	1
“ on land	1	2	..	..	..	..	..	..	..	1	4
Offensive material carted through	1	..	..	..	..	..	..	..	..	..	1
streets	1	..	..	..	..	..	..	..	..	..	1
Offensive odor from putrid meat	1	..	..	..	..	..	..	..	..	..	1
“ pig pen	1	..	..	..	..	..	2	..	..	1	4
Polluting natural water-course . . . . .	..	..	..	1	15	..	..	..	4	..	20
Slaughter-house and surrounding- . . . . .	..	..	..	..	..	..	..	..	..	4	4
filthy . . . . .	..	..	..	..	..	..	..	..	..	..	4
Slops thrown in court . . . . .	..	..	..	1	..	..	..	..	..	..	1
“ street . . . . .	..	1	..	..	..	..	..	..	..	..	1
“ yard	1	..	..	2	..	1	..	..	..	..	4
Stable drainage defective . . . . .	..	..	..	..	..	..	..	..	1	..	1
“ filthy . . . . .	..	2	..	3	..	..	3	..	1	1	10
“ offensive	1	1	..	..	..	..	2	..	..	..	4
Stagnant water in house cellar	1	..	..	..	1	..	..	..	..	..	2
“ in stable cellar . . . . .	..	..	..	..	1	..	..	..	..	..	1
“ on land	11	1	..	14	2	6	..	..	..	..	34
“ under house	1	..	..	..	1	..	..	..	..	..	2
“ under stable	1	..	..	..	..	..	..	..	..	..	1
Vault full	66	16	7	30	26	14	13	4	4	2	182
Vault not properly constructed	12	3	..	4	..	2	1	..	4	2	28
“ “ covered	2	..	..	..	1	5	..	..	1	..	9
“ “ ventilated	1	..	..	5	..	1	..	..	..	..	7
Vault offensive	9	3	..	5	2	5	2	..	5	1	32
Ventilation imperfect and insufficient . . . . .	..	1	..	..	..	..	..	..	..	..	1
Waste-pipes defective	1	..	..	1	1	..	..	..	..	..	3
“ not trapped	5	5	1	1	6	..	2	3	2	..	25
“ stopped up . . . . .	..	..	..	1	..	..	..	..	..	..	1
Water-closet defective . . . . .	..	2	..	..	1	..	..	..	2	1	6
“ not supplied with water . . . . .	..	1	..	..	..	..	..	..	1	..	2
Water from cellar flowing into well . . . . .	..	1	..	..	..	..	..	..	..	..	1
Total	207	80	21	132	120	56	51	19	56	31	773

LENGTH OF SEWERS IN EACH DISTRICT DECEMBER 31, 1878.

District	Length in feet wholly inside the district.	LENGTH IN FEET IN COMMON WITH OTHER DISTRICTS.									
		Dist. I.	Dist. II.	Dist. III.	Dist. IV.	Dist. V.	Dist. VI.	Dist. VII.	Dist. VIII.	Dist. IX.	Dist. X.
I.	17,055	. . .	2,069	960	550	1,257	. . .	400			
II.	15,162	2,069	. . .	. . .	. . .	. . .	. . .	1,431	2,417		
III.	10,906	960	. . .	. . .	2,100						
IV.	11,740	550	. . .	2,100	. . .	5,350					
V.	28,223	1,257	. . .	. . .	5,350	. . .	948	1,000			
VI.	508	. . .	. . .	. . .	. . .	948	. . .	1,896			
VII.	10,650	400	1,431	. . .	. . .	1,000	1,896	. . .	2,746		
VIII.	3,350	. . .	2,417	. . .	. . .	. . .	. . .	2,746			
IX.	11,244	. . .	. . .	None	in common						
X.	None.	. . .	. . .	None	in common						

The total length of sewers laid in the city to date is 133,667 feet, or twenty-five and three tenths miles.

STATEMENT OF THE APPROPRIATION AND EXPENDITURES
FOR HEALTH DEPARTMENT, 1878.

Appropriation,	\$2,800 00	
Received for ashes sold,	4 00	
	<hr/>	\$2,804 00

EXPENDED.

For collecting offal,	\$1,308 32
“ “ ashes,	707 34
“ burying animals,	9 00
“ vacating houses,	4 50
“ serving legal notices in neighboring cities and towns,	23 10
“ posting notices,	5 00
“ fumigating,	19 00
“ peppermint, bluing and lime,	21 15
“ disinfectant,	20 58
“ books, printing, and stationery,	120 22
“ advertising,	70 50
“ postage stamps,	19 00
“ carriage-hire,	11 00
“ salary of clerk,	100 00
“ salary for inspector,	200 00
“ additional compensation for in- specter,	300 00
“ incidentals,	30 50
	<hr/>
	\$2,969 21

Amount of pay-roll for January, ap- proved by Committee on Health,	21 80
	<hr/>

Total for year,	2,991 01
Amount overdrawn,	<hr/> \$187 01 <hr/>

Regular meetings have been held weekly, and special meetings as often as occasion has required.

Our thanks are due to the State Board of Health and the Board of Health of Boston, for valuable advice and information, to His Honor the Mayor and the City Council for their hearty co-operation, and to Melville C. Parkhurst, Esq., Chief of Police, and his officers and men for assistance rendered.

CHARLES W. SAWYER, *Chairman*.
EMORY L. WHITE.
GEO. A. KIMBALL.

HOUSE DRAINAGE.

BY GEO. A. KIMBALL.

THE prevalence of diphtheria in our city has led to a careful examination of the premises where it has been reported, and almost invariably the drainage of the infected houses was found to be defective. (See table in report of Board of Health, page 208A.)

These defects were found in the dwellings of the rich, as well as the poor; in houses built by day work under the supervision of the owner, and in those built for speculation; in houses connected with the public sewers, as well as in those which are drained into cess-pools.

In the upper tenement of a house on Somerville Avenue, occupied by a family containing three children, complaint was made of a bad odor coming from the waste-pipe at the sink, which was so offensive that it was necessary, after using the sink, to stop up the waste-pipe to prevent the stench from entering the room. The premises were inspected, when it was found that a direct communication existed between the sink and the sewer, that the drain was laid without traps, and that the sewer was being ventilated into the rooms of the house.

Complaint was made of a bad odor at one of our principal school-houses. On examination it was found that the water-closets were, in their general arrangement, constructed on the most recent and approved plan, but the details of the work were faulty, and they were not kept in proper repair. In addition to this, the entire sewer system in the vicinity was found to have vent into the basement of the schoolhouse because of imperfect trapping and broken drain-pipes; and an intolerable nuisance was the result.

At a house on Winter Hill, in which two cases of diphtheria had occurred, the house sewer was laid at a steep grade to a cesspool in the rear, and the trap, instead of being level, was set on the same grade as the house sewer, so that the water which was intended to remain in the trap for a seal was allowed to run out, and

the bad odor from the cesspool passed unobstructed into the dwelling.

Hundreds of instances might be mentioned, but these are sufficient to show the nature of the defects found.

These facts in relation to the general condition of the dwellings throughout our city, and the ignorance and apathy of builders and householders on this matter of house drainage, seem to require that the common defects should be pointed out, with the method of remedy.

To guard against any misunderstanding as to the terms used and to inform those who are not familiar with the names of the different parts of house drainage, the following definitions are given:—

HOUSE SEWERS. — Pipes leading from the public sewers to the dwellings, and around and under them. (See Plate I.)

TRAPS. — Curved pipes so arranged as to retain a sufficient quantity of water to prevent the passage of gases. (See Plate II.)

SOIL PIPES. — Pipes leading down through the house from the water-closets, waste pipes, etc., to the house sewer. (See Plate I.)

WASTE PIPES. — Pipes to receive and conduct the waste water from sinks, bowls, baths, etc., to house sewers or soil pipes. (See Plate I.)

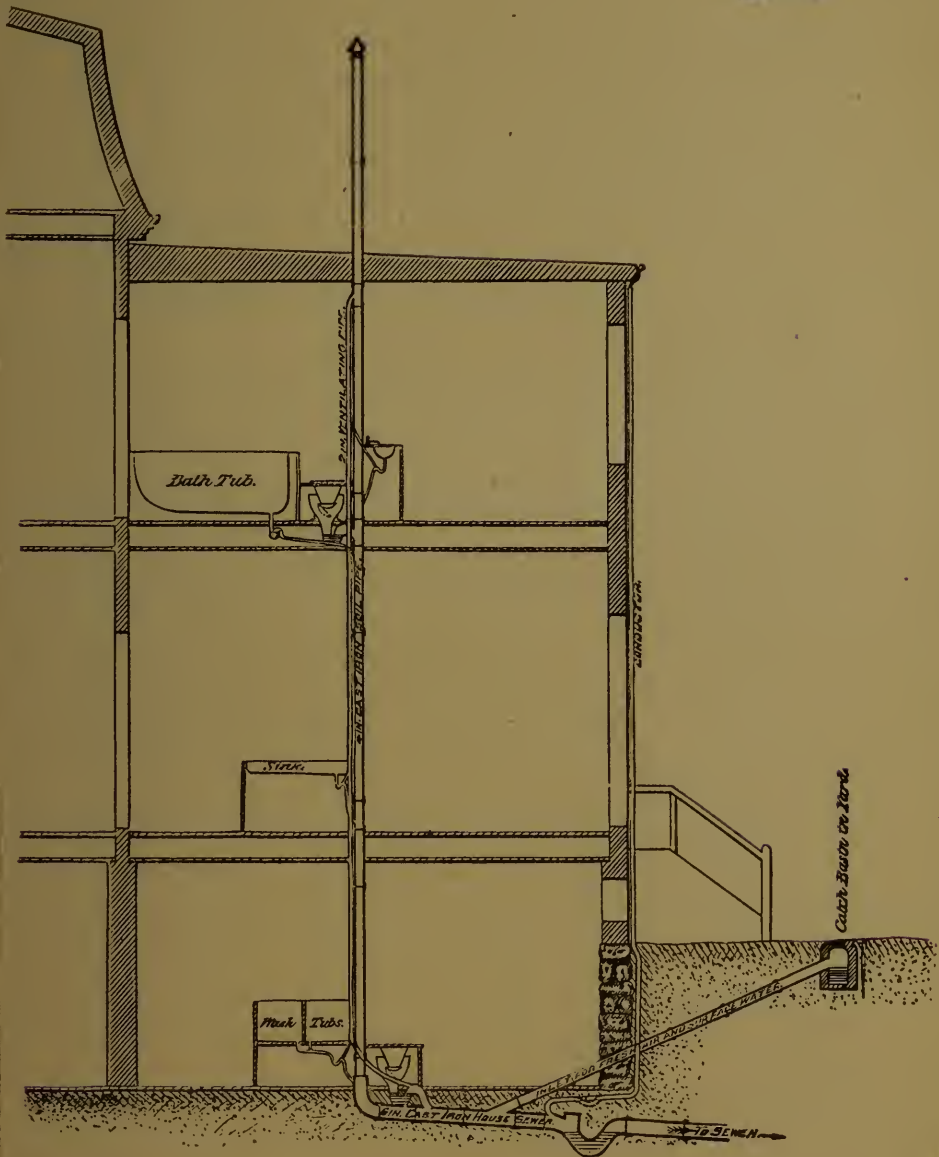
GREASE TRAP. — Small tight basin, receiving the waste from the sink, the end of the outlet pipe being curved downward. The discharge is from a point under water, and the grease rising on the surface is removed by hand. (See Plate II.)

PROMINENT DEFECTS.

The record of the inspection of houses during the year 1878 shows the following to be the most common and prominent defects in the house drainage:—

- No ventilation or vent for the soil pipes or house sewers ;
- Broken and cracked sewer and soil pipes ;
- Open joints in pipes ;
- Defective or cracked traps that will not retain sufficient water ;
- Traps set on an incline that allows the water, intended as a seal, to pass off ;
- Open traps in the cellars ;
- Connections with sinks, bowls, and baths without traps ;
- Cesspools under or too near the dwellings ;

Plate I.



SYSTEM OF HOUSE DRAINAGE.

Cesspools open, overflowing, or not ventilated ;
 Water-closets not supplied with water ;
 Water-closets not ventilated ;
 Privies too near the dwellings and not ventilated ;
 Vaults improperly constructed ;
 Vaults overflowing and defective.

The principal object to be attained in a system of house drainage is the immediate removal of all waste matter, and as this filth immediately on its entering the soil or waste-pipes begins to give off the gases of decomposition, it is of equal importance that the system should be so arranged as to prevent the gases emitted from entering the rooms of the dwellings.

The following is a condensed statement of the general directions to be followed.

From the public sewer lay a house sewer of sound vitrified pipe, with tight joints to the rear of the house ; then lay an iron pipe into the cellar and connect this with a cast-iron soil pipe, extending four feet above the roof. With this soil pipe connect the water-closets and waste pipes from bowls, sinks, and baths, each to be trapped. Trap the house sewer where it leaves the cellar.

The following are directions in detail for constructing each part of a system of house drainage.

HOUSE SEWER.

The house sewer should be laid outside of the house as far as practicable. If laid in the cellar, it is liable to be cracked or injured, when the sewer gases will escape into the house ; and if the cellar floor is cemented, in case of accident the pipes are not easily accessible. When laid outside the house, sound vitrified pipe, with tight cement joints, may safely be used ; and if laid near the roots of trees, they may be prevented from forcing their way into the pipes by coating the joints with coal tar.

That portion of the house sewer in the cellar should be constructed of the best quality of cast-iron pipe, and the joints should be run and calked with lead. Earthen and cement pipes are liable to crack or break, and it is also difficult to make a perfectly tight joint between them. The cast-iron pipe soon becomes coated inside with a greasy substance which prevents rust. This pipe should be six inches in diameter, which size will be found sufficient even for large families. A larger pipe is not easily flushed, and consequently is more liable to be clogged.

Care should be taken in fixing the grade, which should be uniform throughout, and not less than one quarter of an inch fall in two feet.

Changes of direction should be made with curved pipes, and all connections with other pipes should be made with Y branch pipes manufactured for the purpose. (See Plate II.)

SOIL PIPE.

The best material for soil pipes is first quality cast iron. Much of the iron pipe used for this purpose is very light and defective. Lead should not be used, as it is liable to be damaged by the driving of nails, or to be gnawed by rats. A four inch pipe is the size usually adopted, and is sufficient.

To secure ventilation for the system of house drainage, the soil pipe should, in all cases, be extended at its full size to a point four feet above the roof, and a proper cap or cowl attached.

If possible, the soil pipe should be painted on the outside with lead paint, as by this means any slight crack can be readily detected by the discoloring of the paint.

WASTE PIPE.

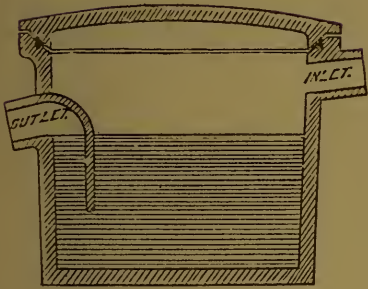
Lead pipes are usually used for this purpose, as they are more easily bent. They should be at least one and one quarter inches in diameter.

TRAPS.

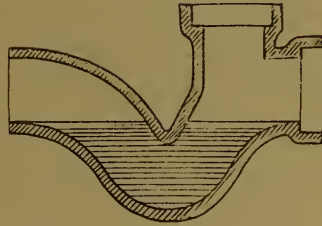
A trap should be placed in the main house sewer just before leaving the house or in a man-hole just outside of the building. The cover of the man-hole should be perforated, and a hand-hole on the house side of the trap left open for the entrance of air, to give a circulation through the house sewer and soil pipe, and if the trap is placed inside of the cellar wall, a pipe should be extended from the house side of the trap to the open air for the same purpose. This pipe can also be used for conveying surface water from the yard to the sewer, in which case a catch-basin or pocket should be provided where the surface water enters the pipe, to catch the sand or other solid substance.

Traps are also required on the waste pipes at the connection with each sink, bath, or bowl, and they should be arranged with a screw in the bottom for cleaning or removing any obstruction.

GREASE TRAP.



SYPHON TRAP.



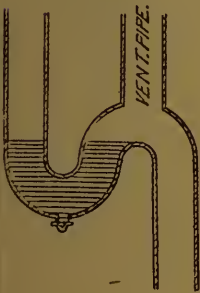
Y BRANCHES.



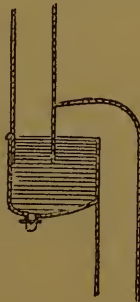
$\frac{1}{4}$ BEND.



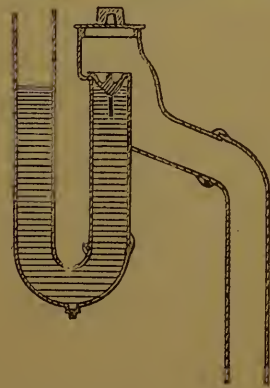
S TRAP.



ADEE & CO'S TRAP.



WARING'S
SEWER GAS CHECK-VALVE.



The trap at the water-closet should be ventilated by a separate pipe, which may join the soil pipe at the roof.

Experience has shown that the common S trap, properly ventilated, is the best. It should be larger than the pipe in which it is placed, and should be ventilated from the upper part of the bend. When it is impracticable to provide this ventilation, a trap may be used which does not require ventilating. Of traps of this description there are many different patterns, one of which is Waring's Sewer Gas Check Valve. (See Plate II.) This trap was designed by Geo. E. Waring, Sanitary Engineer, of Newport, R. I., and is pronounced by experts as reliable. Another pattern which is found to work well is Adees's trap, shown in Plate II.

CESSPOOLS

The following is quoted from the report of E. M. Snow, M. D., Superintendent of Health, Providence, R. I., to the Board of Aldermen of that city, Nov. 4, 1875:—

“It has been proved that cesspools are pestilential nuisances, and one of the greatest abominations which can possibly be suffered to exist in the midst of a large city”; and further, “that it is impossible for any population to be healthy, living amid cesspools or upon a soil permeated by decomposing animal and vegetable refuse.”

At houses so situated that it is impossible to connect them with the public sewers, the cesspools should be located with great care, and placed at as great a distance from the house as the size of the lot will allow, and on no condition under or near the house. They should be built of brick, laid in Portland cement; should be perfectly tight, covered with a substantial iron cover, and properly ventilated.

In houses connected with public sewers, cesspools should never be used, as they retain on the premises a quantity of filth which cannot fail to become a nuisance.

The usual plan of cesspools used in this city is a hogshead or barrel set in the ground without a bottom; and the sewage is allowed to soak away in the soil, which, in a short time, becomes saturated, rendering the whole neighborhood unhealthy. Cobblestone cesspools are no better.

At a hearing before the Board of Health, a prominent physician expressed the opinion that the soil in a certain thickly settled neighborhood in this city was so saturated with sewage, occasioned by the use of cesspools, that it was the cause of much sickness and death from miasmatic diseases ; in proof of which he gave a list of cases in the neighborhood which he had attended.

GREASE TRAPS.

In hotels, eating-houses, boarding-houses, and in some families, on account of the carelessness of the servants, grease is allowed to waste, which adheres to the inside surface of the house sewer and waste pipes, and sometimes collects to such an extent as to clog them. The experience in our own city from this trouble has not been great, as very few such cases have occurred, and none to our knowledge where the house was supplied with hot water, a liberal use of which warms the grease and allows it to pass off with the liquid matter.

Grease traps should be used only when absolutely necessary, as they are in construction simply cesspools on a small scale. They require cleaning frequently, which process usually causes a nuisance of itself, and as it is not considered a very pleasant undertaking, is for that reason often neglected.

In ordinary dwellings supplied with hot water, where the sinks are provided with proper fixed strainers, the grease trap is not a necessity ; but in dwellings occupied by large families, or by two or more families, and in hotels, eating-houses, factories, etc., or where house sewers are laid with only a slight inclination, it is often necessary to use the grease trap. If used it should be placed on the waste pipe from the sink and be properly ventilated, which can be done by means of a conductor from the roof. This would also aid in cleaning the trap, which should be frequently examined, and cleaned when necessary.

WATER-CLOSETS.

Much has been written on this subject, and it is not proposed here to enter into a detailed discussion of the different patterns in use. In this city the hopper closet has given the most trouble, it being at times quite offensive, as the water fails to carry off the fecal matter, which often remains in the trap until the next time

the closet is used. The pan closet, when properly ventilated and cared for, has caused only slight annoyance.

The Jennings closet is considered by many experts to be the best now in use, and is strongly recommended by E. S. Philbrick, Civil Engineer, in his paper on house drainage, published in the State Board of Health report for 1876.

The secretary of the Brooklyn, N. Y., Board of Health recommends "Pearson's Twin Basin Closet" as being superior to the "Jennings."

All water-closets should have a ventilating pipe from under the seat to the open air, either through the roof or to a chimney flue. They should be placed in well-lighted and thoroughly ventilated rooms.

Many writers claim that it is unsafe to place water-closets or fixed bowls in sleeping-rooms or in adjoining dressing-rooms, but that they should be placed in separate corridors or towers constructed for the purpose. I think it is unnecessary to place these conveniences so remote that to reach them would be an inconvenience. With proper arrangements it is perfectly safe to place water-closets in dressing-rooms adjoining sleeping-rooms.

A well-planned house is usually arranged with the bowls, baths, water-closets, etc., on each floor, directly over the same conveniences on the floor below. Long lines of nearly level pipes under the floors should be avoided, as the pipes being necessarily small, and the inclination slight, they are liable to clog. This should be avoided, not only for sanitary reasons, but on account of liability to accident from the bursting of pipes through freezing or otherwise, which often causes serious damage to the ceilings of the rooms below. If the plumbing is directly over that on the floor below, and the water, waste and soil pipes are carried up in closets, the damage by leaks will be confined to a small part of the house.

VENTILATION.

A very important part of a thorough system of house drainage is the ventilation, which is neglected in nearly every house in this city. Traps are not sufficient to prevent the sewer gases from entering the dwelling, for the following reasons, viz.:

1st They are liable to be forced by the backing up of the water in the sewer in case of high tides or a heavy storm;

2d. The water is liable to be siphoned from a trap by a rush of water down the soil pipe;

3d. The discharge of a large quantity of hot water into the house sewer expands the air, which seeks a vent though the weakest trap. It has also been proved that the gases will pass through the water in the trap.

The only practicable method that has yet been devised for ventilating public sewers in this country is by perforated man-hole covers. This system is in use in only a small portion of our city, and is not effective during the winter months, when the streets are covered with snow and ice; and as the street catch-basins are all trapped, it will be seen that in case the sewers are filled with water the only vent is through the house sewers, which, if not ventilated, will conduct the gas to the dwellings.

The soil pipe should be carried to a point above the roof, and left open.

The rain-water conductor from the roof should enter the house sewer on the house side of the trap, and should itself be trapped when its upper end is near a window or lower than adjoining buildings.

Traps and water-closets should be ventilated, and provision should be made for a current of fresh air from the surface of the ground into the house sewer.

For a sketch of the general arrangement see Plate I.

WORKMANSHIP.

It is quite difficult to find workmen who are competent to arrange and construct an efficient system of house drainage. The work being mainly out of sight and not easily inspected, mistakes and poor workmanship can be easily covered up, and therefore great care should be taken to select competent and faithful mechanics, who should be paid a fair price for their labor, and every inducement should be given them to perform the work in the best possible manner.

Most of the work of this kind is performed by men who take it by the job, and aim to make it pay, rather than to furnish a piece of first-class work.

REPORT OF THE CITY PHYSICIAN.

To his Honor the Mayor and City Council :

GENTLEMEN, — I have the honor to present herewith the following report of this office for the year ending Dec. 31, 1878.

Scarlet fever and diphtheria have prevailed epidemically. There have been reported during the year, 108 cases of scarlet fever, 15 of which proved fatal, and 70 cases of diphtheria, 21 of which died.

I have, during the year, made 1,600 professional visits, 200 of which were office visits, 1,411 medical, and 189 surgical.

The following table shows the names of the diseases treated and the number of visits made during each month.

DISEASES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Abscess	1	..	3	5	..	..	3	1	..	..	..	..	13
Accident	14	11	13	8	13	6	5	3	18	16	4	18	129
Asthma . . . . .	..	..	2	1	..	..	..	..	..	..	..	..	3
Apoplexy . . . . .	..	..	..	1	5	..	..	..	..	..	..	..	6
Aphonia . . . . .	..	..	..	..	..	..	..	..	..	..	..	1	1
Brochitis	18	50	40	34	25	6	13	3	2	7	14	87	299
Cholera Morbus	1	..	..	..	..	..	..	3	3	..	2	2	11
Phthisis (consumption of lungs)	4	..	1	1	..	..	11	7	27	1	13	1	66
Croup, spasmodic	2	2	1	..	..	..	..	..	..	..	..	2	7
Convulsions . . . . .	..	7	1	..	..	..	..	4	..	..	..	..	12
Cancer . . . . .	..	1	..	..	..	..	..	..	..	..	..	..	1
Cholera Infantum . . . . .	..	..	..	..	..	..	8	9	19	8	..	..	44
Diarrhœa	3	7	2	7	5	3	29	19	7	16	2	..	100
Dyspepsia	2	6	1	1	..	1	..	..	3	3	1	1	19
Diphtheria . . . . .	..	1	14	..	13	3	..	4	..	10	9	..	54
Disease of Heart . . . . .	..	..	1	..	..	..	..	..	..	..	1	..	2
Delirium Tremens . . . . .	..	..	1	..	..	..	..	3	2	3	..	..	9
Dislocation of Elbow . . . . .	..	..	..	5	..	..	..	..	..	..	..	..	5
Dysentery . . . . .	..	..	..	..	..	..	5	4	3	1	..	..	13
Erythema . . . . .	..	3	1	..	..	..	..	..	..	..	..	..	4
Eczema . . . . .	..	1	..	..	..	..	..	..	1	..	..	2	4
Epi-taxis (bleeding at the nose) . . . . .	..	3	..	..	..	1	6	..	..	..	..	..	10
Epididymitis	3	..	..	..	..	..	1	..	..	..	..	..	4
Epilepsy . . . . .	..	..	1	1	1	1	1	2	..	..	..	..	7
Erysipelas	4	3	1	6	..	..	..	..	..	..	..	9	23
Febricula	7	2	6	6	3	2	1	1	3	..	..	1	32
Frost Bite . . . . .	..	1	1	..	..	..	..	..	..	..	..	..	2
Fracture of Femur . . . . .	..	..	..	..	..	..	..	1	..	1	..	..	2
Fracture of Clavicle . . . . .	..	..	4	..	..	7	1	2	..	..	..	..	14
Fracture of Elbow . . . . .	..	..	..	..	..	..	5	..	..	..	..	..	5
Gastralgia . . . . .	..	..	1	1	..	..	..	..	..	..	..	..	2
General Debility	8	11	11	8	4	28	6	9	4	7	26	8	130

TABLE, —continued.

DISEASES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Hæmoptysis (hæmorrhage from the lungs) . . . . .	..	9	4	10	..	..	..	..	..	..	..	4	27
Hysteria	5	1	2	2	..	2	..	..	..	..	..	..	12
Herpes Zoster (shingles) . . . . .	..	..	..	..	..	..	..	..	..	..	2	..	2
Housemaid's Knee . . . . .	..	..	..	..	..	..	..	..	..	..	1	..	1
Hernia Inguinal . . . . .	..	1	..	1	..	..	..	..	..	..	..	..	2
Hip Disease . . . . .	..	..	..	..	1	..	..	..	..	..	..	..	1
Influenza	1	..	..	3	1	..	..	..	..	..	..	..	5
Ileus	1	1	..	..	4	..	..	..	..	..	..	..	6
Insanity	1	..	12	..	4	..	..	..	2	1	2	..	22
Lumbago . . . . .	..	1	3	2	..	..	..	..	..	1	..	..	7
Mastitis . . . . .	..	..	..	..	..	..	..	..	..	1	2	..	3
Meningitis . . . . .	..	..	..	..	7	..	..	..	..	..	..	..	7
Necrosis of Tibia . . . . .	..	1	..	..	..	..	..	..	..	..	..	..	1
Neuralgia . . . . .	..	1	2	..	..	..	..	..	..	2	..	1	6
Obstetrics	6	..	20	9	14	..	..	7	1	12	6	4	79
Otorrhœa	1	..	2	..	..	..	..	..	..	..	..	..	3
Pneumonia	5	2	..	42	13	10	..	..	..	13	22	14	121
Pertussis (whooping cough) . . . . .	..	3	1	..	..	..	6	1	1	..	..	..	12
Pleuritis . . . . .	..	..	..	1	1	..	..	..	2	..	..	1	5
Pharyngitis . . . . .	..	..	..	4	1	..	..	..	..	..	..	..	5
Peritonitis . . . . .	..	..	..	..	..	6	..	..	..	..	..	..	6
Retention of Urine . . . . .	..	7	..	..	..	..	..	..	..	..	1	..	8
Rheumatism Acute Articula . . . . .	..	1	10	1	9	1	..	..	..	..	2	1	25
Rubeola (measles) . . . . .	..	..	..	..	12	75	17	..	..	..	..	..	104
Parotitis (mumps) . . . . .	..	..	1	..	1	..	..	..	..	..	..	..	2
Scarlet Fever	10	..	..	1	..	..	..	..	1	9	18	4	43
Scleroditis . . . . .	..	3	..	1	..	..	..	..	..	..	..	..	4
Stillborn . . . . .	..	1	..	..	..	..	..	..	..	..	..	..	1
Suicide . . . . .	..	..	..	..	..	..	..	..	..	1	..	..	1
Scrofula . . . . .	..	..	..	1	..	..	1	..	..	..	..	1	3
Scabies . . . . .	..	..	..	..	..	..	1	..	..	..	..	..	1
Stomatitis . . . . .	..	1	..	..	..	..	..	..	..	..	..	..	1
Tertiary Syphilis . . . . .	..	..	..	..	..	..	10	1	..	..	..	..	11
Tonsillitis	1	1	1	2	1	3	1	2	..	2	2	..	16
Urticaria . . . . .	..	1	1	1	1	1	1	1	..	..	..	..	7
Varicella (chicken-pox)	1	..	1	1	..	..	..	..	..	..	4	..	7
Total	99	144	166	167	139	156	132	87	99	115	134	162	1600

The following deaths have occurred, viz. : —

Feb.	10.	Thomas McCormick.....	Age, 8 mo's..	Capillary Bronchitis.
"	25.	George H. Hoar.....	" 5 yr's..	Atrophy and Debility.
March	13.	Alexander Austedd.....	" 4 "	..Diphtheria.
"	17.	Mrs. Julia Mahoney.....	" 35 "	..Dysentery.
"	18.	Rosalea Austedd	" 6 "	..Diphtheria. .
April	24.	Mrs. Louisa Winlo	" 27 "	..Typhoid Pneumonia.
May	1.	Mary Ann Duncan.....	" 37 "	..Alcoholism.
"	3.	Philip Hardenburg	" 65 "	..Nephria.
July	3.	Julia Cochran	" 80 "	..Old Age.
"	27.	Lewis F. Jackson	" 9 mo's..	Cholera Infantum.
Aug.	1.	Ellen Kelley.....	" 53 yr's..	Tertiary Syphilis.
"	9.	Mrs. Margaret Sullivan...	" 37 "	..Phthisis.

Aug.	12.	Dennis Bowen	Age, 4 yr's..	Convulsions.
"	16.	Caroline D. Alfred.....	" 1 "	..Diarrhœa.
"	26.	John Griffin.....	" 45 "	..Cirrhosis of Liver.
"	29.	Margret McDonald	" 10 mo's..	Cholera Infantum.
Oct.	20.	Margaret A. Connily.....	" 4 "	..Diphtheria.
Nov.	3.	Annie Fitzharris.....	" 3 "	..Scarlet Fever.
"	2.	James Sexton.....	" 1 hour..	Congenital Syphilis.
"	9.	Aaron S. Long.....	" 65 yr's..	Pneumonia.
"	29.	William V. Jones	" 8 "	..Lencocythemia.
Dec.	23.	Dennis Cushing	" 2 "	..Pneumonia.
"	21.	William Donney	" 68 "	..Phthisis.

I have seen also during the year fifteen bodies of persons who have died without a physician in attendance during their last illness.

Respectfully submitted.

EMORY L. WHITE,

City Physician.

MEMBERS OF THE BOARD OF HEALTH.

CHARLES W. SAWYER, *Chairman.*

EMORY L. WHITE, M. D.

GEORGE A. KIMBALL.

CLERK.

GEORGE I. VINCENT.

INSPECTOR.

WILLIAM H. BRINE, Houghton Street.

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REPORT
OF THE
COMMITTEE ON FIRE DEPARTMENT.

CITY OF SOMERVILLE.

IN BOARD OF ALDERMEN, Dec. 31, 1878.

Accepted: referred to next City Government, to be printed in Annual Reports for 1878. Sent down for concurrence.

CHARLES E. GILMAN, *Clerk*.

IN COMMON COUNCIL, Dec. 31, 1878.

Concurred in.

DOUGLAS FRAZAR, *Clerk*.

CITY OF SOMERVILLE.

To the Mayor and City Council:

The Committee on Fire Department respectfully submit the following final report for the year 1878.

The appropriation for the support of the department the present year was \$20,800.

This committee has expended during the year . . .	\$19,966
There is due for gas used during this last quarter, the bills for which have not been presented, by estimate	247
Making the total cost of the department for the year .	<u>\$20,213</u>
In addition to the above, we have approved bills contracted by the Committee on Fire Department, for 1877, and left by them unsettled, amounting to .	\$1,172
Making a total of	<u><u>\$21,385</u></u>

Being an excess of \$585 above the appropriation for the present year.

The apparatus of the department is in good condition, and the several companies well organized and effective.

An extra expense of \$699.50 attended the services of the department at the burning of C. H. North & Co.'s packing house, in June, and by direction of the Board of Health, manure pits were constructed at two of the hose houses at an expense of \$100.

The committee believe the department is judiciously and prudently managed, and in an effective condition.

J. A. CUMMINGS,

Chairman.

ANNUAL REPORT OF THE CITY CLERK.

ANNUAL report of the City Clerk of the receipts of his office for the year ending Dec. 31, 1878, also the registration of marriages, births, and deaths for the period ending Dec. 31, 1878.

RECEIPTS ENDING DEC. 31, 1878.

For recording mortgages and assignments,	\$159 75
“ “ liquor licenses,	37 00
“ licensing goats,	48 00
“ “ old junk dealers,	76 00
“ “ swine,	236 00
“ “ dogs,	95 80
“ auctioneers' licenses,	14 00
“ collection of grease,	36 00
“ marriage certificates,	86 50
	<hr/>
	\$789 05
	<hr/>

All of which has been paid to the City Treasurer and his receipt taken for the same.

MARRIAGES.

Number of intentions issued in 1878,	173
Less than last year,	13
Marriages registered,	170

NATIONALITY OF THOSE REGISTERED.

Both parties American,	93
Both parties foreign,	38
American groom and foreign bride,	14
Foreign groom and American bride,	22
Unknown,	3
	— 170 couples.

First marriage of	283 persons	
Second “	48	“
Third “	4	“
Fourth “	1	“
Unknown,	4	“
	<hr/>	
	340	=170 couples.
	<hr/>	

Oldest person married	62 years of age.	
Youngest person married	15	“ “
Number of births registered in 1878,		547
Less than last year, 92.		
Males, 264. Females, 283.		
Number of cases of twins, 5.		
Born of American parents,	240	
Born of foreign parents,	205	
American male and foreign female,	37	
Foreign male and American female,	55	
Unknown,	10	
	<hr/>	547

DEATHS.

Number of deaths in Somerville in 1878,	384
Less than last year,	59

Ages.	Males.	Females.	Totals.
Under 10 years,	100	94	194
Between 10 and 20,	3	8	11
“ 20 “ 30,	15	15	30
“ 30 “ 40,	8	30	38
“ 40 “ 50,	11	13	24
“ 50 “ 60,	12	10	22
“ 60 “ 70,	14	6	20
“ 70 “ 80,	11	13	24
“ 80 “ 90,	5	13	18
“ 90 “ 100,	1		1
Over one hundred,		2	2
	<hr/>	<hr/>	<hr/>
	180	204	384

Oldest person deceased, female, 100 years and 3 months.

NATIONALITY.

Born in Somerville,	176	
Other places in United States,	143	
Of foreign birth,	63	
Unknown,	2	
	—	384

The number of deaths returned by the undertakers was 384, and occurred as follows : —

January,	22	July,	33
February,	34	August,	42
March,	33	September,	32
April,	27	October,	37
May,	25	November,	32
June,	23	December,	44
		—	384

Attest :

CHARLES E. GILMAN,

City Clerk.

CITY GOVERNMENT FOR 1879.

MAYOR.

GEORGE A. BRUCE.

Residence, Highland Avenue ; Office, City Hall.

ALDERMEN.

JOHN F. COLE, *President*.

WARD ONE.

JOHN F. COLE	.	.	.	.	.	Perkins Street.
OLIVER J. DAVIS	.	.	.	.	.	Pearl Street.

WARD TWO.

SEWARD DODGE	.	.	.	.	.	Union Square.
A. R. COOLIDGE	.	.	.	.	.	Columbus Avenue.

WARD THREE.

S. M. PENNOCK	.	.	.	.	.	Sycamore Street.
J. J. UNDERHILL	.	.	.	.	.	Gilman Street.

WARD FOUR.

S. H. LIBBY	.	.	.	.	.	Elm Street.
ASA DURGIN	.	.	.	.	.	Broadway.

COMMON COUNCIL.

EDWARD GLINES, *President*.

WARD ONE.

AMOS NICKERSON	.	.	.	.	.	Flint Street.
M. B. COLE	.	.	.	.	.	Pinckney Street.
E. C. CLARK	.	.	.	.	.	Ellsworth Street.
W. F. GRIFFIN	.	.	.	.	.	Broadway.

WARD TWO.

A. B. GOOKIN	.	.	.	.	.	Grand View Avenue.
CALEB A. PAGE	.	.	.	.	.	Newton Street.
JOHN E. HILL	.	.	.	.	.	Putnam Street.
EBEN JACKSON	.	.	.	.	.	Washington Street.

WARD THREE.

EDWARD GLINES	.	.	.	.	Temple Street.
R. M. BALDWIN	.	.	.	.	Albion Street.
SYLVESTER RICHARDS	.	.	.	.	Bonair Street.
J. L. NORCROSS	.	.	.	.	Marshall Street.

WARD FOUR.

T. M. BRADY	.	.	.	.	Beacon Street.
J. W. BAILEY	.	.	.	.	Appleton Street.
J. A. CHABOT	.	.	.	.	Park Street.
F. A. BRIDGHAM	.	.	.	.	Cedar Street.

JOINT STANDING COMMITTEES OF THE CITY COUNCIL FOR 1879.

ACCOUNTS. — Aldermen Davis, Underhill; Councilmen Cole, Jackson, and Bailey.

BURIAL-GROUNDS. — Aldermen Durgin, Coolidge; Councilmen, Bridgham, Nickerson, and Richards.

CLAIMS. — His Honor the Mayor, *ex officio*; President of the Common Council, *ex officio*; Alderman Dodge; Councilmen Griffin and Bridgham.

FINANCE. — His Honor the Mayor, *ex officio*; President of the Common Council, *ex officio*; Aldermen Davis, Libby; Councilmen Baldwin, Cole, Hill, and Chabot.

FUEL AND LIGHTS. — Aldermen Underhill and Dodge; Councilmen Nickerson, Brady, and Norcross.

FIRE DEPARTMENT. — Aldermen Pennock and Cole; Councilmen Brady, Norcross, and Page.

HIGHWAYS. — Aldermen Cole and Durgin; Councilmen Gookin, Clark, and Baldwin.

REVISING WATER CONTRACT. — Aldermen Cole and Pennock; Councilmen Cole, Brady, and Hill.

ORDINANCES. — Aldermen Libby and Cole; Councilmen Chabot, Jackson, and Griffin.

PUBLIC PROPERTY. — Aldermen Libby and Dodge; Councilmen Clark, Richards, and Page.

PRINTING. — Alderman Cole; Councilmen Jackson and Cole.

STATE AID AND SOLDIERS' RELIEF. — Aldermen Dodge and Underhill; Councilmen Hill, Griffin, and Bailey.

WATER. — Aldermen Underhill and Coolidge; President of the Common Council, *ex officio*; Councilmen Chabot and Nickerson.

352 S69 1878

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